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Canadian Association for Health  
Services and Policy Research

L'Association canadienne pour la  
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CAHSPR Annual Conference 2020

**ADVANCING HEALTH EQUITY:  
IDENTIFYING BARRIERS AND SOLUTIONS**

May 26-29, 2020

TCU Place • Saskatoon, SK

# Book of Abstracts

Organized Alphabetically by Abstracts Category:

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All content included in this book of abstracts is as it was  
submitted by the abstract deadline of January 17, 2020

Abstracts included in this document are listed in the presentation  
category for which they were accepted.

*\* Conference cancelled due to COVID-19 pandemic*



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Oral Embedded

## *Patient engagement in research within a health authority setting*

Ms. Jennifer Cartwright, Island Health/BC SUPPORT Unit

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**Category:** Oral Embedded

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Canada's Strategy for Patient-Oriented Research (SPOR) aims to engage people with lived experience of health issues as equal partners in research. Moving away from the traditional view of patients as passive "subjects", patient-oriented research strives to co-develop research that responds directly to patient needs and priorities. While such an approach is not novel in academic and community research arenas, patient engagement in settings within our health authority have historically been limited in scope.

**Approach:** Our SPOR unit is embedded within the Research department of a Canadian regional health authority. Unit staff provide services to clinicians and researchers across the health authority region (in both clinical and academic settings); these services include assistance with funding and ethics approval; stakeholder engagement; knowledge translation; training; and education. The unit and the Research department were both established within the last 7 years; patient engagement efforts have therefore drawn heavily on knowledge from health system experts, international initiatives, and experienced community-based researchers at local academic institutions who operate with a health equity lens.

**Results:** Embedding a SPOR unit within a health authority has been challenging. Clinicians lack protected research time; engaging patients "off the side of their desk" can result in additional administrative burdens. Patient partners tend to be middle class, retired, mobile, and from similar populations. The unit's clinical setting also discourages visits from patient partners who have experienced trauma or discrimination on-site. However SPOR 'champions' within our region continue to push the boundaries of the system, spearheading initiatives such as a research project on culturally-safe primary care for people who use drugs, conducted jointly by academic and peer researchers. Recommendations stemming from this project have been shared provincially and nationally, and the team is currently preparing an interactive workshop to bolster impact on clinical practice.

**Conclusion:** Placing a SPOR centre within a health authority research department has led to a wealth of capacity-building opportunities for clinicians and patient partners alike. However, further work is needed to adapt current health authority policies to ensure equitable involvement of patient partners from diverse backgrounds and value their contributions appropriately.

**Author Names:** Jennifer Cartwright, Island Health/BC SUPPORT Unit; Karen Urbanoski, University of Victoria

## *How to make sense of control rooms to achieve value-based integrated performance management in healthcare?*

### *Actionable knowledge for health system managers*

Ms. Élisabeth Côté-Boileau, University of Sherbrooke

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**Category:** Oral Embedded

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** In 2016, the Ministry of Health and Social Services in Quebec mandated a province-wide implementation of control rooms in all healthcare organizations, to support a new national orientation towards integrated performance management. To this day, little is known about how healthcare managers have appropriated control rooms, and what the resulting effects are. Building on an ongoing doctoral study results', this knowledge-transfer experiment aims to identify actionable-items to help healthcare managers make sense of control rooms.

**Approach:** We co-designed and taught a two-steps workshop to help middle (tactical and clinical) managers make sense of control rooms. First, we elaborated six "myths" (e.g. "control rooms exclude physicians from performance management") that health care managers encounter while experimenting control rooms. Using the "5-whys" facilitating technique, participants (N=20) were grouped into six teams and were asked to both 'bust' one myth and provide one tactical-oriented actionable-item accordingly. Second, we used the "25/10 crowd-sourcing" technique to generate and underscore, based on the whole group perspective, the top-3 most attractive operational-oriented actionable-items to help middle managers meaningfully design and use control rooms.

**Results:** We identified six tactical-oriented actionable-items to help managers make sense of control rooms: 1) Map performance indicators within the organization's macro-processes, to understand where and how clinical operations contribute to generating common value, 2) integrate pre-existing performance management mechanisms into control rooms, 3) formalize physician co-managers' participation in control rooms, 4) focus on process indicators that are user-experience oriented, 5) include, monitor and promote projects involving patient-partners in control rooms, 6) protect time for feedback, problem solving and exchange in control rooms. The top-3 operational-oriented actionable ideas identified are: 1) training on how to design, use and vulgarize control rooms towards clinical teams, 2) technological support to make the visual of control rooms simple and attractive, and 3) empower clinical managers' assistants through control rooms.

**Conclusion:** This knowledge-transfer experiment brings concrete answers to health system managers who seek to experience new management technologies towards value-based integrated public healthcare systems. It also highlights the value of co-design to rethink the traditional ways we address critical health system challenges through generative collaborations between research and health system actors.

**Author Names:** Élisabeth Côté-Boileau, University of Sherbrooke; Brigitte Brabant, Centre intégré de santé et de services sociaux de la Montérégie-Centre; Marie-Andrée Belzile, Centre intégré de santé et de services sociaux de la Montérégie-Centre; Mylaine Breton, Université de Sherbrooke; Jean-Louis Denis, University of Montreal

## *Performance Measurement – How to reduce indicator burden and measure what is meaningful for the Ontario's Hospital System.*

Dr. Imtiaz Daniel, Ontario Hospital Association

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**Category:** Oral Embedded

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Ontario Hospital Association (OHA) expressed concern about the growing number of performance measures used for public reporting, accountability agreements and quality improvement. This presentation will discuss an OHA and Ontario Health (Quality) (OH (Quality)) consultation process to develop a provincial strategy for a more streamlined, sustainable approach to performance measurement for the hospital sector that is better aligned to provincial priorities. Resulting recommendations focused on the hospital system but are applicable across Ontario's health

**Approach:** A three-phased, multi-year workplan was approved by the OHA Board of Directors and senior leadership at OH (Quality). Seventeen senior leaders including CEOs and Chief Medical Officers representing a range of small, community and academic hospitals from across Ontario were interviewed using a semi-structured interview guide. Four Roundtables with the interviewees, Ministry of Health and the University of Toronto were held in 2018/19. A task group reviewed a database of performance indicators to identify meaningful indicators. In the final phase, consultation with provincial, national and international system leaders and a patient advisory group informed the final proposed

**Results:** Interviewees reinforced the importance of measuring performance to support improvement in the quality of care and patient outcomes, but excessive measurement has led to difficulties in focusing performance management. Poor alignment, orphaned indicators and insufficient infrastructure were also identified. A framework to align indicators to provincial priorities with four categories: public accountability, system monitoring, local-level monitoring and retirement was developed. A database of approximately 1000 indicators was created and a 302-indicator subset was categorized using the framework. Public Accountability included hospital readmissions, wait times, ALC, patient safety, finance, patient and provider experience indicators. A report was developed with four recommendations.

**Conclusion:** The newly legislated Ontario Health is implementing the recommendations of the report. A governance structure with an Indicator Strategic Committee and Technical Indicator Screening Committee for long-term, sustainable performance measurement are being established. A centralized monitoring system is being explored to allow automation options that enables efficient and

**Author Names:** Imtiaz Daniel, Ontario Hospital Association; Gail Dobell, Health Quality Ontario; Elizabeth Carlton, Ontario Hospital Association; Anna Greenberg, Health Quality Ontario



## *Evidence-Informed Policy from an Implementation Science Perspective: A Discussion Paper*

Dr. Heather Finnegan, University of Manitoba

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**Category:** Oral Embedded

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Evidence-informed policies (i.e., macro-level innovations) are vital to guide healthcare delivery and transformation. Implementation science (IS) explores the integration of innovations into healthcare policy and practice. Approaches to implementing innovations at the micro (e.g., provider-patient) and meso (e.g., organizational) levels have been widely studied; approaches to implementing macro-level innovations are less apparent. Using a case study, we exemplify the application of IS principles to evidence-informed policy processes within a policy cycle framework.

**Approach:** Although review of the literature reveals six major stages of a policy cycle (agenda setting, research and analysis, consultation, communication, implementation, and evaluation), specific processes within each stage are ambiguous. Our interdisciplinary team reviewed the policy cycle literature, discussed how IS principles could be used to augment current approaches to policy advice and decision-making, and developed draft recommendations for enhancing current policy cycle processes. Recommendations were applied to a case study regarding governance (i.e., provincial) and operational (i.e., regional) policies to guide the development, implementation and evaluation of inspection and audit care standards for congregate housing with health services (CHHS).

**Results:** Steps inherent to traditional policy cycles are consistent with IS; however, policy cycles tend to describe unidimensional, decontextualized approaches to implementing and evaluating strategic innovations within complex systems. Using a case study, we discuss how IS principles can enhance evidence-informed policy processes by (a) engaging with various stakeholders (e.g., healthcare planners, regional staff responsible for policy implementation, CHHS managers and care staff) and conducting cost (e.g., government spending) versus benefit (e.g., expected improvement in care) analyses, (b) considering a specific context and implementation factors (e.g., examining similar environments and potential adopters to optimize uptake, determine user capacity and innovation scalability), and (c) promoting thoughtful and comprehensive evaluation plans to measure service (e.g., efficiency, effectiveness) and implementation (e.g., fidelity, sustainability of ongoing inspections and audits) outcomes.

**Conclusion:** Evidence-informed policy decisions are essential in complex, multi-level systems. Although the longstanding “policy cycle” framework provides broad guidance to policy workers, application of IS principles offers a more comprehensive, contextualized approach. Lessons learned from our case study will guide recommendations regarding how IS can be used to augment policy processes.

**Author Names:** Heather Finnegan, University of Manitoba; Malcolm Doupe, University of Manitoba; Gayle Halas, University of Manitoba; Thekla Brunkert, University of Manitoba; Brie DeMone, Manitoba Health, Seniors and Active Living; Fiona Jeffries, Manitoba Health, Seniors and Active Living

## *Canadian Nurses Association's Cannabis Collaborative: Engaging and Exploring Diverse Cannabis Users and Service Providers' Perspectives*

Dr. Sarah Flögen, Canadian Nurses Association

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**Category:** Oral Embedded

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** The 2018 legalization of non-medical cannabis in Canada prompted a need for a National Nursing Framework and education for nurses. With grant support from Health Canada's Substance Use and Addiction Program (SUAP), the Canadian Nurses Association is creating e-learning modules on cannabis. Stakeholder consultations in five cities have been completed. Success of this educational initiative includes not just a change in nurse knowledge, rather to enhanced patient care as reported by cannabis users.

**Approach:** Using Principles-Focused Evaluation, we intend to explore what and how SUAP guiding principles and context specific values shape the educational outcome in three diverse geographical settings: urban mental health and pediatric health units in Toronto; a rural health unit in Nova Scotia; and an Indigenous health center in Thunder Bay. In addition to geographical diversity, we intend to evaluate the SUAP project principles of evidence-based, culturally safe, non-stigmatizing, gender and trauma informed, and harm reduction knowledge through this project.

**Results:** Using four levels of Kirkpatrick Framework for education outcomes (i.e. reaction, learning, behavior and results), the program theory of change, and Benner's nursing theory of professional development, the presentation discusses the health equity framework employed in the evaluation to understand how similar and different are the outcomes and processes across three geographical settings. Though all data might not be available at the time of presentation, we will discuss the process and evaluation plans with the collaborative sites, and how low-intensive resources sites, for example Thunder Bay and Nova Scotia, participation was organized to co-produce evaluation and subsequent research.

**Conclusion:** Evaluation of the impact of e-learning content and delivery at the point of the client experience requires a robust and culturally sensitive evaluation framework, as well as collaborative relationships among diverse stakeholders. The CNA initiative seeks to support nurse education and enhanced patient care using a health equity lens.

**Author Names:** Sarah Flögen, Canadian Nurses Association ; Faisal Islam , Center for Addiction and Mental Health

## *Bridging the Divide: An Innovative Priority Setting Partnership on Aging and Mental Health*

Dr. Justine Giosa, SE Research Centre

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**Category:** Oral Embedded

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Age-related changes such as loss of social roles, retirement, living alone, bereavement and illness can negatively impact mental health—our “positive sense of well-being, or the capacity to enjoy life and deal with the challenges we face” (CMHA, 2009). While aging is a globally recognized research priority, there is a major gap in aging-focused mental health research. This work aims to develop an innovative, multidisciplinary and meaningful Canadian research agenda on aging and mental health.

**Approach:** The SE Research Centre and The Canadian Mental Health Association are working together to lead an innovative Priority Setting Partnership (PSP) on Aging and Mental Health, which is guided by a steering group of older adults, caregivers, health and social care providers and key partner organizations. The PSP is adapting the approach of the James Lind Alliance to consult older adults, caregivers and health and social care providers across Canada in identifying and prioritizing the most important unanswered research questions about aging and mental health. Consultation methods include a monthly steering group meeting, two national surveys and an in-person workshop.

**Results:** A broad list of uncertainties around age-related mental health support, care and treatment was identified from a national survey. Members of the SE Research Centre compared these uncertainties to existing research evidence in aging and mental health to confirm the absence of research on these topics. Confirmed uncertainties were framed as researchable questions in consultation with the steering group and are being subjected to two phases of priority-setting. The first phase involves a second national survey, which is expected to refine the list of uncertain research questions to ~25. The second phase of prioritization is expected to identify the top 10 unanswered research questions on aging and mental health through an interactive in-person workshop engaging older adults, caregivers and health and social care providers.

**Conclusion:** Identifying the most important unanswered research questions on aging and mental health will equip the PSP to work with researchers, funders and policymakers towards realizing greater investments in age-related mental health support, care and treatment that will meet the needs of the diverse and growing population of older Canadians.

**Author Names:** Justine Giosa, SE Research Centre; Paul Holyoke, Saint.Elizabeth Health Care Research Centre; Heather McNeil, Se Research Centre; Karthika Yogarathnam, SE Research Centre; Claudia Lai, SE Research Centre; Elizabeth Kalles, SE Health



## *Let's Get Engaged: The Role of the Knowledge Broker in the Development of a Public/Patient Partnership*

Ms. Jennifer Pepneck, Manitoba Primary and Integrated Healthcare Innovation Network

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**Category:** Oral Embedded

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** Manitoba Primary and Integrated Healthcare Innovation Network (MPN) is a patient-oriented research network that supports patient engagement and facilitates connections between patients, decision makers and researchers. MPN adopted the National Institute for Health Research recommendation to have a designated member on the team who can act as a point of contact for all involved by utilizing the skills of a Knowledge Broker. This role aligns with MPN's strategic aims for patient engagement.

**Approach:** Based on conceptualization and activities of MPN's Knowledge Broker, we describe the development and ongoing activities to engage patients in research with the overall goal of more authentically supporting and sustaining patient partnerships. This work is embedded within a newly developed Public/Patient Research Partnership (PPRP) that was built using an open, responsive transaction model of communication. We will further describe how this has led to opportunities for authentic patient engagement; facilitated achievement of MPN's objectives through the governance, priority setting, conduct, and knowledge translation of research; advanced engagement across the research phases, and; strengthened engagement capacity and training.

**Results:** The Knowledge Broker was instrumental in enabling a practical and sustainable structure for a PPRP designed to connect patients with research projects, and support patients to bring forward research ideas that support primary and integrated healthcare in the community. The process of joining and contributing to the PPRP was designed with multiple points of access and coordinated communication managed by the Knowledge Broker as a single point of contact. The PPRP is maintained on an ongoing basis by Knowledge Broker, who acts as a neutral point person and conduit between researchers and patients.

These efforts have enabled MPN to support the recruitment of patient partners for research projects, support patient-initiated research, and maintain ongoing patient engagement across the research phases.

**Conclusion:** The Knowledge Broker role is instrumental in the advancement of patient engagement, particularly in the development of effective processes to facilitate recruitment of patient partners for research projects, and ensure ongoing patient engagement. The incorporation of a Knowledge Broker in MPN has enabled achievement of our strategic aims.

**Author Names:** Jennifer Pepneck, Manitoba Primary and Integrated Healthcare Innovation Network; Gayle Halas, University of Manitoba; Alanna Baldwin, Manitoba Primary and Integrated Healthcare Innovation Network, University of Manitoba; Alan Katz, University of Manitoba

## *Incorporating economic evidence into provincial immunization policy development*

Dr. Ellen Rafferty, University of Alberta

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**Category:** Oral Embedded

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The National Advisory Committee on Immunization (NACI) recently updated their national immunization recommendations to include economic evidence. However, many provincial governments and immunization advisory committees (IAC), including Alberta's IAC, have yet to decide how they will incorporate economic data into their own decision-making. Therefore, the objective of this project was to understand how health economic analyses are integrated into immunization policy development in Alberta, and where new methods or processes are needed.

**Approach:** To achieve the above objective we conducted semi-structured in-person or telephone interviews with current members of the provincial IAC (n= 3), members of the provincial Immunization Policy Team at the Ministry of Health, i.e., the IAC Secretariat (n= 2) and public health nurse managers who implement provincial immunization policies (n= 2). Moreover, we reviewed IAC and Ministry of Health documentation, including IAC terms of reference, as well as published guidelines and reviews on methods for incorporating economic evaluations into decision-making.

**Results:** Most respondents stated economic evidence was not consistently or systematically incorporated into IAC reviews or recommendations; however, there was evidence the Ministry took costs into account when deciding whether to fund certain vaccines (e.g., Shingles). While all respondents agreed that there should be more consideration of economics in immunization policy development, many were concerned that decision-makers would put too much weight on the economics, in comparison to other factors, including safety, equity and effectiveness. Interviewees also had varying opinions on who should incorporate economic evidence. For instance, some interviewees believed the IAC should focus on the safety and effectiveness of the vaccination program, and leave economic considerations to the Ministry, and others suggested the IAC provide two recommendations (i.e., with and without consideration of cost-effectiveness).

**Conclusion:** While policy-advisors want to incorporate economics into immunization decision-making, there is very little agreement on suitable processes for integration. These processes need to be in place soon, as NACI recommendations already include economic evidence, and provincial governments and advisory-bodies want to be able to use that valuable evidence appropriately.

**Author Names:** Ellen Rafferty, University of Alberta; Larry Svenson, Alberta; Shannon Macdonald, University of Alberta

## *Mapping institutional processes to facilitate scale and spread of Alberta Family Integrated Care (Alberta FICare)*

Dr. Catherine Ringham, University of Calgary/AHS

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**Category:** Oral Embedded

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** This project is an embedded health services project that explores and maps institutional processes related to the scale and spread of Alberta FICare™. Alberta FICare™ is a new model of neonatal care designed to integrate families in the care of their infants. Our aim is to identify the tensions around peoples' work with Alberta FICare™ and illustrate the coordination and complexity of scaling up evidence-based care practices to position them for sustainability.

**Approach:** Using Institutional Ethnography (IE) as a foundational approach, we conducted observations and interviews with health care providers (HCPs) in urban and regional NICUs centres in Alberta. We examined HCPs work of caring for infants and their families as scale and spread of Alberta FICare™ was underway. We empirically described parents' and Health Care Providers' activities related to care of infants and families. We noted how they know to do this work and what they found troubling or frustrating in their work. In the IE analysis we explicate the complex matrix of institutional processes that coordinate large-scale implementation.

**Results:** We mapped the work that Alberta FICare™ implementation team is doing with NICU staff and leadership. The institutional processes that organize how this work is accomplished were linked to budget constraints, the episodic nature of acuity and staffing in the NICU, and competing demands faced by parents, HCPs, managers, and health system administrators. Scaling up to orchestrate a project across provincial NICU settings is an added demand that contributes to an already challenging health care environment. The Alberta FICare™ Implementation team intend to embed this model of care into everyday neonatal care in ways that will work for staff and parents, and that will reduce infants' length of stay in hospital. Approaches needed to be adjusted to accommodate differences in contexts as implementation was proceeding.

**Conclusion:** IE provides a distinctive view into the social organization of implementation that might not otherwise be visible using other methodological approaches. This study provides a better understanding of systems that may support or impede the uptake of new programs of care and adds critical knowledge of how implementation actually unfolds.

**Author Names:** Catherine Ringham, University of Calgary/AHS; Deborah McNeil , Alberta Health Services ; Karen Benzies, University of Calgary

## *User Experience Using a Provincial Electronic Referral Platform: Evaluation of Alberta Netcare eReferral*

Ms. Kinza Rizvi, Alberta Health Services

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**Category:** Oral Embedded

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Problems in Alberta's current paper-based referral system include illegible, delayed or lost referrals during care transitions. Alberta Netcare eReferral is the province's first paperless referral management platform launched in July 2014. Its goal is to improve the referral- communication process between primary and specialty providers to enhance timely access to patient care and patient safety. The objective is to evaluate the effectiveness of eReferral based on usage trends and overall user experience.

**Approach:** A multi-phase (2019-2022) evaluation framework was developed to assess the eReferral platform based on Quadruple Aim in Healthcare: improved patient experience, better patient and population health, improved provider experience and lower costs. Mixed-methods approach was designed to collect both quantitative and qualitative data via surveys, semi-structured interviews, time motion studies, economic analysis and data extraction from the eReferral and other ambulatory care databases. Phase One of the evaluation was completed in 2019 with 23 semi-structured clinic interviews and three surveys to study users' perspectives about platform design and primary care physicians and specialists satisfaction of with the platform.

**Results:** More than 45,000 eReferral requests were submitted to about 470 specialists between July 2014 and December 2019. The majority of primary care physicians surveyed (91%) were aware of for non-urgent clinical advice from a specialist within five calendar days, 66% had used it and 68% indicated that they had more confidence in managing their patient's condition after getting advice. Most interviewees were satisfied to submit and track referrals online. They reported key benefits such as increased efficiency, enhanced transparency and improved referral quality. Areas for improvement included: spreading eReferral to more specialized services, upgrading the platform to include more auto-populated fields and making it easier to update a patient's condition, building better integration with other electronic medical records systems, and providing more in-person user training.

**Conclusion:** Phase One of the evaluation concluded with positive reviews and increased user utilization. Results show that broad implementation of eReferral can have positive impacts on patient health outcomes by advancing timely access to specialty care and determining appropriate care at a reduced cost.

**Author Names:** Kinza Rizvi , Alberta Health Services; Annabelle Wong, Alberta Health Services; Yong Li, Alberta Health Services

**Category:** Oral Embedded

**Primary Theme:** Cancer

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** More than 7,500 people in Canada including patients, care givers, health-care providers, policy makers and members of the cancer community from across the country participated in the process to refresh the Canadian Strategy for Cancer Control (the Strategy). The refreshed Strategy builds on the original, placing equity at its core and setting out a 10-year action plan for all people in Canada to have access to high-quality cancer care.

**Approach:** The Partnership engaged through an online survey; organizational submissions; pop-up sessions; and meetings with cancer system partners and underserved communities including seniors, new immigrants, persons living on low incomes, LGBTQ2S, and rural and remote communities. Indigenous governments, organizations and communities were engaged through a process developed in collaboration with Indigenous Elders, advisors and partners and guided by co-created principles of engagement.

The Partnership is engaging key partners, including provincial, territorial and federal governments, Indigenous governments and organizations, pan-Canadian Health Organizations, patient groups and cancer organizations to collaborate on implementation planning. These efforts underscore the importance of inclusive planning and action

**Results:** Grounded in equity, the 8 priorities in the 2019-2029 Strategy outline how we can work together to improve access to high-quality cancer care for all people in Canada. Three of the priorities were identified by First Nations, Inuit and Métis and have Peoples-specific actions to guide improved First Nations, Inuit and Métis cancer care and outcomes. This focus reflects Canada's commitment to reconciliation, the partnerships that have been built across the country, and the significant cancer care work that has been, and continues to be led by First Nations, Inuit and Métis across the country.

As steward of the Strategy, the Canadian Partnership Against Cancer (the Partnership) is beginning to identify collaborative opportunities with partners to catalyze implementation of the Strategy's equity agenda.

**Conclusion:** The Strategy outlines the priorities of over 7,500 people across Canada, and actions that will allow all people in Canada to have equitable access to high-quality cancer care. Implementation requires ongoing engagement of all relevant partners, including and especially those who experience the greatest barriers in accessing cancer care.

**Author Names:** Nicole Robinson, Canadian Partnership Against Cancer; Cheryl Louzado, Canadian Partnership Against Cancer; LALAINE LACUESTA MANAOIS, CANADIAN PARTNERSHIP AGAINST CANCER

## *Building a research partnership between computer scientists and health service researchers for access and analysis of population-level health datasets: what are we learning?*

Dr. Michael Schull, Institute for Clinical Evaluative Sciences

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**Category:** Oral Embedded

**Primary Theme:** Health Informatics

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** There is widespread enthusiasm to improve health through the application of artificial intelligence and machine learning (AI/ML) methods to large population-level health datasets. Achieving this may require successful collaboration between institutions as well as between computer scientists (CS), machine learning researchers (MLR) and health service researchers (HSR). The objective is to describe lessons learned in creating the Health Artificial Data and Analysis Platform (HAIDAP) in Ontario, Canada.

**Approach:** A partnership between a HSR institute (ICES), an AI/ML institute (Vector) and a high-performance computing center (HPC4H) was initiated in 2017 to enable the application of AI/ML methods to population-level health data for the province of Ontario (population 14M). The HAIDAP was launched in 2019. We describe lessons learned (and being learned) following the HAIDAP's launch.

**Results:** Major learnings include: 1)importance of institutional partnerships and alignment with institutional strategies; 2)potential of joint institutional risk-sharing models; 3)need for scientific collaborations bridging disciplines around joint research projects; 4)sensitivity to different scientific cultures (e.g., academic prestige of conference proceedings for MLR vs journal publications for HSR; traditional statistical vs. ML model assumptions); 5)differences in research timeline expectations; 6)different experience with and expectations for access to de-identified routinely collected data (e.g., need for research ethics committee project approvals and privacy impact assessments); 7)developing data access models that enable greater flexibility (e.g. importing code or using open source tools); 8) broadening data access models to allow modern high-dimensional exploratory data analysis; 9)obtaining support of information/privacy regulator; 10)hardware is (relatively) easy part compared to other success factors.

**Conclusion:** The HAIDAP has enabled multi-disciplinary collaborations and novel AI/ML research of Ontario's population-level health data. Collectively we have learned that additional effort is required to develop systems and processes enabling more efficient access to data and analytic tools for the analysis of administrative health data.

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**Category:** Oral Embedded

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Toronto Community Housing (TCH) is home to 27,000 seniors, over half of whom live in seniors' designated buildings; however, there is inadequate and inconsistent delivery of services in these buildings, negatively impacting tenants' ability to age in place. To better support senior tenants, the City of Toronto is developing an Integrated Service Model (ISM) to improve delivery of housing and support services and promote housing stability.

**Approach:** While the City identified a roadmap for implementing the ISM, they struggled to identify relevant stakeholders and had few resources to make evidence-informed decisions on how best to develop and implement the model or evaluate its effectiveness. Therefore, this research uses the Consolidated Framework for Implementation Research as a guiding framework to help the City co-create and evaluate the ISM for seniors social housing. To carry out this work, a post-doctoral fellow is serving an embedded research unit at the City, collaborating directly with City and housing staff to co-create an implementation and evaluation plan for the ISM.

**Results:** A series of activities were undertaken to generate evidence the evidence needed to support the development and implementation of the ISM. A scoping review demonstrated that seniors in social housing tend have multiple physical and mental health conditions and that providing services directly in the buildings tended to increase access. Qualitative interviews with senior tenants (n=58) and professionals working with TCH seniors (n=20) identified key issues related to unit condition (including pest control and hoarding), building safety, eviction prevention, and access to support services. Next steps include a series of consensus meetings with key stakeholders in order to identify new housing policies to address the key concerns of tenants and develop an agreed-upon action plan for implementing and evaluating the ISM.

**Conclusion:** As a result of this project, the City of Toronto will be better positioned to support senior tenant's physical, social, and housing needs. The lessons learned from this initiative will be packaged into a toolkit that other municipalities can refer to when planning and implementing their social housing services for

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**Category:** Oral Embedded

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Advances in Artificial Intelligence (AI) may amplify health disparities when algorithms are designed based on faulty frameworks for quantifying race/racialization. Moreover, a systematic review of the operationalization of racialization/ethnicity found that these categories are often vague and poorly contextualized (Mollersen, 2008). The objectives of this rapid realist review is to update how ethnicity/race and racialization have been operationalized; and to develop new benchmarks that can be integrated into clinical and research settings.

**Approach:** This rapid realist review is intended to start a conversation on how race/racialization should be captured by the Brainhealth Databank (BHDB) - a centralized source of high-quality research and clinical data for AI applications at the Centre for Addiction and Mental Health (CAMH). Adapting methods from Mollersen (2008), seven databases will be searched for primary mental health studies conducted in Canada from 2005 onward. Studies will be included if either race/racialization is used as an independent variable or the target population is defined as an ethnic group. Data abstraction will be grounded in critical race theory (CRT) (Ford, 2010).

**Results:** We will examine selected papers based on the following domains: a theoretical framework/approach that defines race/ethnicity and racialization; how race/ethnicity is operationalized; criteria for excluding specific ethnic/racial groups; and whether a comparison group was used. For each domain, we will report descriptive statistics (number of studies, percentage). Based on a preliminary scan of the literature, we hypothesize that vague and inconsistent measurements combined with lingering traces of biological determinism have continued to entrench institutionalized forms of racism in mental health research. Informed by CRT, we will develop recommendations on improving the accuracy, consistency, and degree to which the measurement of race/racialization reflects the current demographic and sociopolitical landscape.

**Conclusion:** CRT suggests there is an urgent need to revisit the routine measurement race and racialization in Canadian healthcare settings to avoid exacerbating existing inequities. This systematic review will identify best practices and provide recommendations for knowledge users implementing AI and digital health applications more equitably.

**Author Names:** Laura Sikstrom, Centre for Addiction and Mental Health; Nelson Shen, Centre for Addiction and Mental Health; Marta Maslej, Centre for Addiction and Mental Health

## *Improving Coordination of Care through the Patient's Medical Neighbourhood*

Ms. Daniela Spagnuolo, The College of Family Physicians of Canada

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**Category:** Oral Embedded

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** The concept of the Patient's Medical Neighbourhood describes a network of care involving multiple providers and services, with family practices as the hub for coordinating care. This session will explore how the Neighbourhood expands on the Patient's Medical Home vision for team-based primary care, and will offer an outline of how the Neighbourhood can be implemented in family practices and health systems as a model for effective collaboration and partnership between care providers.

**Approach:** The College of Family Physicians of Canada sought to operationalize the concept of the Patient's Medical Neighbourhood through development of an implementation guide with feedback from stakeholders across the health care sector, due for publication in spring 2020. The Guide offers an analysis of benefits as well as practical advice for the development of the Neighbourhood. It includes examples of practices, programs, and jurisdictions with innovative approaches to effective inter-professional coordination of patient care. A robust literature search and stakeholder consultation informed the development of the guide, focusing on the experience of Prince Edward Island, Northwest Territories and Saskatchewan.

**Results:** The Neighborhood concept aims to expand and integrate the Patient's Medical Home vision of family practice. There have been many models of networked care developed both internationally as well as within Canada. Approaches aligned with the Patient's Medical Neighbourhood concept have been adopted in jurisdictions including PEI, the Northwest Territories, and Saskatchewan to improve health indicators and the delivery of patient care. This session will explore the successes in implementing health networks, as well as provide an overview of lessons that can be adopted by practices or health care systems looking to reduce health care costs, avoid duplication of services, and improve patient outcomes and experiences through better coordination of patient care among providers.

**Conclusion:** The Patient's Medical Neighbourhood offers a promising model for better care through family practices effectively collaborating with other health and social services. By strengthening linkages between providers, the Patient's Medical Neighbourhood offers improvements in health outcomes, lower costs, and a more efficient and connected health care system.

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## Oral Presentations

# *University students' attitudes toward the use of symptom checkers for self-triage and diagnosis: An exploratory qualitative study*

Ms. Stephanie Aboueid, University of Waterloo

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Despite the pervasiveness of symptom checkers, their potential to improve access to care, and their adoption by various credible health institutions (e.g., UK's NHS), little is known about their acceptance and use by the general public. This study targets university students to understand young adults' – cited as the most eager to adopt technology – attitudes as well as the factors associated with the use of symptom checkers for self-triage and diagnosis.

**Approach:** Given the limited body of knowledge on this topic, an exploratory qualitative research design was used. Semi-structured interviews and a think-aloud exercise were conducted with 11 university students. Participants were provided with a clinical vignette and were asked to verbalize their thoughts while using a symptom checker. Following this exercise, participants were asked questions regarding their experience and factors that would hinder or facilitate the use of such a platform for self-triage and diagnosis. All participants provided informed consent and interviews were audio-recorded. Transcribed interviews were imported into NVivo software program and analyzed using an inductive thematic analysis approach.

**Results:** There was a general consensus that consulting a primary care provider or nurse was superior than searching the Internet or using a symptom checker. While participants believed that symptom checkers have potential, they also believed that disadvantaged and vulnerable groups may not be able to access or use this technology. Participants highlighted many access barriers that could result in inequities in using symptom checkers – avoiding medical jargon, ensuring that the platform is available in various languages, and ensuring that the platform is free of cost are important factors to consider. Other factors that could result in inequities are the lack of access to the Internet in rural and remote regions in Canada as well as suboptimal health literacy and technical skills of the end-user.

**Conclusion:** Various factors are associated with the use of symptom checkers and while this technology has potential, many improvements have to be made to ensure that accuracy is improved and that all individuals – irrespective of their social and demographic characteristics – can have access to this relatively new technology.

**Author Names:** Stephanie Aboueid, University of Waterloo; Samantha Meyer, University of Waterloo; Jim Wallace, University of Waterloo ; Ashok Chaurasia, University of Waterloo

## *Development of a Legal Health Clinic in an Urban Family Practice in Hamilton, Ontario, Canada*

Dr. Gina Agarwal, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Individuals in low-income neighbourhoods have poor health outcomes, and often visit their primary care physician for health problems resulting from unmet legal needs. Providing legal services through a collaboration between health professionals and lawyers is a novel approach that may improve health outcomes. Primary objectives were to assess feasibility of a medical-legal clinic in primary care. Secondary objectives were to evaluate types of legal needs identified and characteristics of patients with legal issues.

**Approach:** This was a pilot study measuring feasibility and challenges of implementation. Patients (18 years and older) were approached in the waiting room by a research assistant or referred by their physician, to complete a legal health screening tool. After completion, those with legal problems were offered an appointment at the weekly Legal Health Clinic (LHC), where lawyers provided legal advice, referrals, and services. Participants also completed a survey asking age, gender, marital status, educational status, income level, citizenship status, ethnicity, quality of life (EQ-5D-3L), self-reported health status, benefit status and poverty indicators. Descriptive analysis and logistic regression were performed.

**Results:** The study screened 770 patients who consented to participate. Eighty-four percent (n=648) had unmet legal needs; an average of 3.44 (SD=3.42) legal needs per patient screened. Of the 69 patients who attended the LHC, the majority were female (59.4%), without post-secondary education (59.0%), not employed full-time (89.1%), receiving benefits (69.6%), and did not own their residence (79.3%). Patients with legal needs had significantly higher odds of attending the LHC if they were non-white (OR=2.48; 95%CI 1.14-5.39), had non-Canadian citizenship, (OR=4.40; 95%CI 1.48-13.07), had housing insecurity (OR = 3.33; 95%CI 1.53-7.24), or had difficulty performing usual activities (OR=2.83; 95%CI 1.08-7.43). As a result of LHC consultations, 40 patients (58.0%) were referred to non-profit legal aid clinics and 15 (21.74%) were referred to a private lawyer.

**Conclusion:** Our findings indicate the Legal Health Clinic was feasible and fulfilled an unmet need. Utilizing this medical-legal model could translate into improved health outcomes by helping patients overcome barriers in accessing legal services and thereby addressing social causes of adverse health outcomes.

**Author Names:** Gina Agarwal, McMaster University; Melissa Pirrie, McMaster University; Dan Edwards, McMaster Family Practice; Bethany Delleman, McMaster University; Sharon Crowe, Hamilton Community Legal Clinic; Hugh Tye, Hamilton Community Legal Clinic; Jayne Mallin, Legal Aid Ontario



## DATA MATTERS: CURRENT STATE OF QUANTITATIVE DATA AVAILABLE FOR FAMILY MEDICINE WORKFORCE PLANNING IN CANADA

Dr. Monica Aggarwal, College of Family Physicians of Canada/University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In Canada, there are many national and provincial/territorial data sources that collect information that is used to make decisions about family physician workforce planning. The College of Family Physician of Canada implemented the Family Medicine Professional Profile (FMPP), which outlines the responsibilities, work arrangements, and philosophy of family physicians. This study examined the state of quantitative data sources with respect to the characteristics, location, and scope of work of family physicians related to the FMPP.

**Approach:** National and provincial/territorial data sources were compared to physician characteristics, geography, and FMPP domains through a combination of key informant interviews and document review and analysis. In total, 66 key informant interviews were conducted with employees within data source organizations, primary care experts and leaders. Documents were collected from these organizations and were reviewed and analyzed in relation to data content, limitations and accessibility.

**Results:** There were 41 data sources with self-reported, administrative, and electronic medical record data on family physicians, in which 21 data sources had relevant and feasibly accessible information. However, there was no one data source that could provide information on physician characteristics, geography and the FMPP domains. Rather, there was significant variability in the data elements that were being collected across data source organizations. Although all data sources had limitations, access and linkage of data sources was possible with the use of unique identifiers.

**Conclusion:** In the absence of a single data source and variable definitions/measures for physician workforce planning, a measurement framework with a data collection strategy is needed to accurately describe the number, distribution, and work of family physicians. This framework/strategy should be developed in partnership with researchers, policymakers and stakeholders across Canada.

**Author Names:** Monica Aggarwal, College of Family Physicians of Canada/University of Toronto; Ivy Oandasan

## *Patient and Caregiver Experiences with Early Palliative Care in Calgary, Alberta: A Qualitative Study*

Ms. Sadia Ahmed, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Cancer

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The Palliative Care Early and Systematic (PaCES) program in Alberta implemented an early palliative care pathway for advanced colorectal cancer patients in January 2019, defined as a consultative visit from a specialist palliative care provider, palliative homecare service or hospice admission greater than or equal to 3 months before death. This study aims to understand the experience of patients and family caregivers receiving early palliative care supports.

**Approach:** This is a qualitative and patient-oriented study. Patient partners supported the development of the interview guide, along with healthcare providers on the team. Participants in Calgary were recruited with the support of a specialist palliative care nurse over the phone, and followed up by a researcher after consent to contact was given. Semi-structured telephone interviews with patients living with advanced colorectal cancer and family caregivers were conducted to explore their experiences with an early palliative approach to care. Interviews were audio-recorded. Interviews were transcribed, and the data thematically analyzed supported by the qualitative analysis software, NVivo.

**Results:** Participant recruitment is currently still in progress. A total of 9 participants have been interviewed so far (6 patients, 3 family caregivers) from Calgary. Participants expressed that visits from their early palliative care nurse was helpful, improved their understanding of palliative care, and improved their care. Most participants also mentioned improvements in communication with their care team, and engagement in their own care. Participants found services from their cancer team to be sufficient, and therefore some participants did not feel the need to see their family doctor after their cancer diagnosis. There were also mixed responses regarding the timing of advance care planning discussions.

**Conclusion:** Early palliative care delivered by a specialist nurse can improve advanced cancer care, including an improved understanding and acceptance of early palliative care. The PaCES program is currently underway in Calgary, and early palliative care supports should be expanded to other cancer conditions.

**Author Names:** Sadia Ahmed, University of Calgary; Syeda Farwa Naqvi, University of Calgary ; Aynharan Sinnarajah, Alberta Health Services; Gwen McGhan, Faculty of Nursing, University of Calgary; Jessica Simon, Alberta Health Services; María José Santana, Cumming School of Medicine, university of Calgary

***“Are they gonna take it out on us because we made a complaint?”: Exploring Accessibility to Health and Social Services for English-speaking Seniors in Quebec: A Qualitative, Multiple Case Study.***

Ms. Ethier Alexandra, Université de Sherbrooke

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Official language minorities in Canada, such as English speakers in Quebec, have difficulties accessing health and social services (HSS). However, little knowledge is available about the factors (barriers and facilitators) influencing the access to HSS for Quebec’s English-speaking seniors. With high levels of anticipation to use long-term care and an aging population, knowing more about those factors is essential. Therefore, this study explored the factors influencing access to HSS for English-speaking seniors in Quebec.

**Approach:** To do so, a qualitative multiple case study was conducted in Quebec. Unilingual English-speaking seniors were at least 65 years old and attempted to use HSS in the past three years. Recruited with a newspaper article, community organizations and churches, they lived in towns in which English speakers represented a small (case A) or a high (case B) proportion of residents. Data was collected through semi-directed interviews (60 to 90 min), documents (ex. pamphlets) and the researcher’s notebook. Data collection and analysis were done simultaneously. Each case was analyzed independently, and then, cases were compared to find similarities and differences.

**Results:** Twelve factors influencing access to HSS were identified: six barriers and six facilitators. Among barriers, refusing to file complaints (ex. HSS only in French, inattentive providers towards English HSS needs) because seniors feared repercussions restricted access. Also restrictive were limited financial resources that made it harder to pay out of pocket for HSS, such as English-speaking private senior’s residences. Furthermore, French bureaucratic processes (ex. automated voicemail, forms) and the government pushing for a French-speaking province were also perceived as barriers. In opposition, knowing English HSS facilitated senior’s access, just like a caring HSS provider (ensures seniors get needed HSS, gives English HSS). Finally, seniors living in towns with more English speakers encountered lesser barriers to access HSS and knew more about the available English HSS.

**Conclusion:** Giving tools to seniors to increase their confidence in requesting HSS when needed is the first step to ensure access to HSS. Also, for HSS providers, reducing the burden of bureaucratic processes and having health professional taking the time to listen to seniors’ needs is primary.

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## *Do health systems cover the mouth? Comparing dental care coverage for older adults in eight jurisdictions*

Dr. Sara Allin, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Oral health is an important component of general health, yet there is limited financial protection for the costs of oral health care in many other high-income countries. Evidence of cost barriers to access have fuelled interest in strengthening dental care coverage programs in Canada and internationally. This study systematically compares dental care coverage for older adults in a selection of comparable jurisdictions to uncover options for policy makers interested in expanding dental coverage.

**Approach:** This study compares the models of dental care coverage in a selection of comparable jurisdictions: New South Wales (Australia), Alberta (Canada), England, France, Germany, Italy, Sweden, and the United States. Drawing on the WHO Universal Coverage Cube, we compare breadth (who is covered), depth (share of total costs covered), and scope (types of dental services covered), with a focus on the community-dwelling population of older adults (individuals aged 65 and older). To collect the data we invited local experts to populate a template to provide detailed and comparable descriptions of dental care coverage in their national or sub-national jurisdictions.

**Results:** We found four general types of coverage models: 1) deep public coverage for a small subset of the population based on strict eligibility criteria jurisdictions: Alberta (Canada), New South Wales (Australia) and Italy; 2) universal but shallow coverage of the population, combined with deeper coverage for a sub-set of the population meeting eligibility criteria: England, France, Sweden; 3) universal, deep coverage for the whole population: Germany; and 4) shallow coverage available to some subgroups of the population in the United States (for lower income older adults seniors dually eligible for Medicare and Medicaid in some states, and for some “Medicare Advantage” plans in the United States).

**Conclusion:** There is variability in the extent to which statutory, publicly funded health systems cover the mouth. Improved data collection initiatives for oral health measures would enable research that draws connections between the model of dental care coverage with oral health outcomes.

**Author Names:** Sara Allin, University of Toronto; Julie Farmer, University of Toronto; Carlos Quinonez, University of Toronto; Gregory Marchildon, University of Toronto; Allie Peckham, Arizona State University

# *Harmonizing health administrative data across Canadian provinces in the context of medication management among the elderly*

Dr. Sara Allin, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** The health and economic impacts of inappropriate prescribing are recognized internationally. Provincial governments have undertaken efforts to strengthen medication management, expanding the role of community pharmacists and integrating pharmacists into some primary care teams. In the context of evaluating the impacts of such reforms in Ontario and Quebec, we will present our approach to creating comparable population cohorts and indicators using administrative health data in both provinces and describe variation in our key indicators.

**Approach:** Our interdisciplinary team of researchers, primary care providers, and pharmacists collaborated with data and content experts at INESSS and IC/ES. We identified key indicators, including counts of potentially inappropriate medications according to the Beer's List criteria (and separately for STOPP/START), indicators for adverse drug reactions, measures of polypharmacy, and individual drugs that are generally contraindicated among the elderly. We constructed comparable population cohorts using administrative health data in both Quebec and Ontario, and then these measures at the individual patient, family physician, and primary care team levels. We describe variation in medication management within and across provinces for 2017-18.

**Results:** While the structures of the administrative databases are largely similar, certain differences posed challenges. Different drug classification systems and area-level measures of socioeconomic status are typically used in the two provinces. Differences in formal patient rostering across provinces, including how rostering and physicians' team affiliation appear in the data, also required attention. Among more than 1.5 million patients age 66+ in each province, 55% are women and the average age is 76 years in Quebec (75 years in Ontario). While only about 1% experience an adverse drug event in a year in Quebec and 0.9% in Ontario, more than one-third are taking a potentially inappropriate medication as defined by Beer's List. Important variation exists in these measures across family physicians and across primary care teams.

**Conclusion:** In the context of medication management among the elderly, close collaboration and attention to detail allowed us to create harmonized indicators using administrative health data in Canada's two largest provinces. Variation in these measures and how provincial primary care policies impact them will be the subject of future research.

**Author Names:** Sara Allin, University of Toronto; Erin Strumpf, McGill University; David Rudoler, University of Ontario Institute of Technology; Nichole Austin, McGill University

*The Post-Resettlement Health Care Needs, Barriers and Facilitators of Refugee Women in Navigating a New Health Care System: A Study among Diverse Refugee Women in Alberta, Canada.*

Ms. Eunice Anteh, University of Lethbridge

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The health needs and expectations of refugee women during their post-resettlement into their new environment influence their healthcare access and utilization. With an increasing global migration crisis caused by conflicts and wars, refugees attempting to settle in host countries encounter challenges such as safety, finances as well as health. This study examines the healthcare expectations and experiences of refugee women as they settle in Canada, their health needs and strategies to improve their post-resettlement challenges.

**Approach:** Given the challenges and goals disclosed by participants, it is important consider refugee health needs assessment, medical outreach programs, long-term practical support and joint networking of ideas among stakeholders. Developing an educational program such as 'Health Care Basics for Women and their Families' might help to reduce the lack of information and misunderstandings that refugees have after migration. Also, increasing collaborations between rural and urban agencies will help mobilize resources and increase organizational capacity to meet the needs of refugee women. It will be beneficial to offer cultural sensitivity training for all people who work with refugees.

**Results:** An explorative qualitative research study guided by intersectionality feminist framework to explore the experiences and perspectives of refugee women from diverse backgrounds. An inductive thematic approach was used to analyze and interpret the views of 39 refugee women and 7 settlement workers in focus group and individual interviews from 7 communities in South Alberta. Five major themes were identified from participants' narratives including understanding, accessibility, navigation, utilization and expectations. Key findings revealed that mental health issues, gender-specific health services, health literacy, economic and social support were identified to impede refugee women resettling health experience. Also, refugee women emphasized developing resilience, coping strategies and personal experiences to meet their health needs and embrace the new health practices as they integrate into the Canadian health care system.

**Conclusion:** Language differences, location (rural versus urban), culture sensitivity and minimal community acceptance and involvement tend to shape the health outcome and pathways to care for refugee women. Future research or interventions should consider a practical and dynamic approach to ensure a comprehensive understanding of refugee women's health needs and experiences.

**Author Names:** Eunice Anteh, University of Lethbridge



# *Inequitable effects of prescription drug coverage on health services utilization in Ontario using linked data: An intersectional analysis*

Ms. Valentina Antonipillai, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Canada is the only high-income country with a universal healthcare system that does not provide prescription drug coverage for its citizens. The resultant patchwork arrangement of publically funded drug coverage programs at the federal, provincial and territorial levels in Canada is complex, creating uneven and inequitable access to prescription drugs. This study examines the effect of prescription drug insurance status on health services utilization and determines whether this association differs by immigrant status and gender/sex.

**Approach:** A cross-sectional study design informed by an intercategory intersectional approach is employed. To examine effects of drug insurance on use and non-use of health services, multivariable logistic regression models were estimated and the interaction effect between prescription drug coverage and immigration status is examined. Model estimates were used to generate predicted probabilities of each health service utilization outcome (use of GP services, specialist services, and hospitalizations) by drug insurance type and immigration status, stratified by sex and standardized by demographic and need characteristics. To interpret the results, predicted probabilities and associated average marginal effects are reported.

**Results:** The findings will reveal how individuals with private, government-sponsored or no drug insurance coverage use health services in Canada, across non-immigrant, economic immigrant, family-class immigrant and refugee populations. Linking data from the Canadian Community Health Survey and Longitudinal Immigrant Database generated a data sample of Ontario residents (n=39,792) aged 25-64 years old. Preliminary results reveal that there are notable differences between prescription drug coverage statuses on health services use according to immigration category and gender/sex.

**Conclusion:** Examining how prescription drug coverage affects health services utilization will reveal the ways in which Canadians, including immigrants, refugees and non-immigrants alike, navigate the healthcare system when required to pay-out-of-pocket for prescription drugs.

**Author Names:** Valentina Antonipillai, McMaster University

## *The status of non-official languages in Canada's communities of medical practice*

Dr. Ruolz Ariste, CIHI

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Languages can represent a barrier to access medical care. Although the topic of healthcare professionals and linguistic minorities has been studied in Canada, this has been done mainly in the context of official languages. Non-official languages (NOL) have not been previously explored in the healthcare system at the pan-Canadian level. The objective of this study is to determine to what extent NOL spoken by physicians relate to those of Canadian ethnic groups.

**Approach:** Scott's Medical Database 2018 data from the Canadian Institute for Health Information (CIHI) was used to track the top 10 NOL spoken by family physicians (FP), broken down by province/territory and Census Metropolitan Area (CMA). The 2016 Census from Statistics Canada was used to track the number of persons reporting various NOL (language spoken most often at home) by CMA. The percentage of physicians speaking a NOL was directly compared to the percentage of the population speaking that language. Physician-population ratios by NOL and CMA are also provided. An imbalance was perceived, based on the observed gap.

**Results:** The top 10 NOL reported by physicians in the SMDB are: Chinese, Arabic, Spanish, Punjabi, Urdu, Afrikaans, German, Hindi, Italian and Farsi/Persian. They also correspond to the top 10 NOL spoken by the population, except for Afrikaans and Farsi/Persian. The number of Punjabi-speaking FPs of Canada's seven largest CMAs (Toronto, Montreal, Vancouver, Calgary, Edmonton, Ottawa, Winnipeg) are proportionally representative of the Punjabi-speaking populations in those cities. Toronto's Chinese-speaking FP workforce is slightly outweighed by its Chinese-speaking population. However, Vancouver's ratio of Chinese-speaking FP workforce to Chinese-speaking population is almost 1:2. More contrastingly, Montreal had the lowest proportion of Arabic-speaking FP while it is among the CMAs with the highest proportion of Arabic-speaking population (ratio of 1:9). It is somewhat the reverse for Toronto and Edmonton.

**Conclusion:** These results suggest some imbalance in language capacity exists. This information can allow policymakers to assess the efficiency of "free-style" distribution of physicians relative to this dimension. A good understanding of the situation is needed to know whether specific measures are required to reduce disparities in access to medical care.

**Author Names:** Ruolz Ariste, CIHI; Deborah McCartney, Canadian Institute for Health Information; Charde Morgan, Canadian Institute for Health Information; Hetal Dave, CIHI

# *Coercive Restraint: Understanding Austerity and Challenging Behaviours Protocols for People with Dementia, Family Caregivers and Care Workers*

Dr. Katie Aubrecht, St. Francis Xavier University

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Canada is in the midst of a system level crisis in continuing care service delivery for people living with complex chronic conditions that include dementia and psychiatric disability. A small percentage of the population of older adults have complex care needs that cannot currently be safely met within communities and residential facility-based long-term care. This contributes to rising rates of injuries, violence, health workforce challenges, carer distress, and use of restraints in acute care settings.

**Approach:** This paper explores the opportunities and limitations of introducing a complex dementia behavioural health care provincial protocol, drawing on results from a realist review of emerging innovation/best practice in complex dementia care from a service delivery perspective, consultations with continuing care program leaders, staff, service providers and stakeholders (n >250) and observations from visits in long-term care facilities across the province of Nova Scotia.

**Results:** Findings highlight the promise of a stepped approach to care and continuing care-led multi-sectoral collaboration, integration and coordination at the provincial level for quality care, caregiving and care work. Such an approach requires a shift in imagining, enacting and investing in dementia and dementia care. Implications are discussed using dementia-specific and dementia-relevant 'centres of excellence' as a case.

**Conclusion:** Specialized provincially coordinated collaborative complex dementia supports would play a role in shifting from a reactionary and restraint-based 'crisis management' approach, to a proactive person-centred care approach that is attentive to ethical issues and to the human rights of people with dementia and the people who support their care.

**Author Names:** Katie Aubrecht, St. Francis Xavier University

## *Strategies to reduce the frequency of missing data in questionnaire: a narrative review*

Ms. Li-Anne Audet, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Questionnaires represent a relevant and efficient tool to measure quality of care and patient-reported outcomes. However, questionnaires are often associated with missing data, low response rates and loss of follow-up. In order to prevent the frequency of missing data within questionnaires, several research teams identified strategies, such as email and phone notification and electronic formats.

**Objectives:** 1) synthesize the strategies to reduce the frequency of missing data 2) and examine their impact on missing data.

**Approach:** A narrative review, following Gasparyan & Blackmore (2011) guidelines, was conducted. A systematic search of English and non-English literature was conducted in three databases: 1) Medline, 2) CINAHL, and 3) Embase. Additional studies were identified by searching bibliographies, prior reviews, and by contacting authors. Studies were included if they: 1) were focusing on quantitative questionnaire (e.g., surveys, patient-reported outcomes, self-administered questionnaire), 2) were reporting missing data and response rates and, 3) were related to health sciences research. Studies focusing on statistical method to handle missing data (e.g., imputation method), simulation and recruitment and retention of participants were excluded.

**Results:** Out of 640 retrieved articles, 18 studies met our inclusion criteria. Seven strategies were retrieved including phone call notification, electronic questionnaire format, smartphones and electronic tablet questionnaire, text message notification, email notification, incentive and help by a research coordinator. Email notification and electronic questionnaires were the most frequent observed strategies. The majority of strategies were associated with higher response rate and lower missing data within questionnaires. To explain these associations, authors suggested that these strategies increase the accessibility of the questionnaire for participants and are sources of motivation. Furthermore, an electronic format questionnaire is strongly associated with a decrease of missing data.

**Conclusion:** Missing data represent an important challenge and must be addressed a priori. Strategies preventing the occurrence of missing data are crucial in order to avoid bias and unrepresentative data from questionnaires. Further studies are needed to better document the underlying reasons of missing data, such as participant behaviors and beliefs.

**Author Names:** Li-Anne Audet, McGill University

*Of course we need it, but it needs to fit my needs: A qualitative comparative case study on barriers and facilitators of a patient portal implementation and adoption*

Ms. Melita Avdagovska, University of Alberta

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**Category:** Oral Presentation

**Primary Theme:** Health Informatics

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Giving patients access to their health information is a provincial and national goal and critical to the delivery of patient centered care. With this shift, patient portals have become more prevalent. In Alberta, Alberta Health Services piloted a portal (MyChart). There was a need to identify factors that promoted use of this portal. Furthermore, it was imperative to understand why there was a variability in uptake within the various clinics that participated in the pilot.

**Approach:** A qualitative comparative case study was conducted to determine the feasibility, acceptability, and initial perceptions of users and to identify ways to increase uptake prior to province-wide deployment. Semi-structured interviews were conducted with 56 participants (27 patients, 21 providers, 4 staff, and 4 clinic managers) from 5 clinics. Patients were asked about the impact of MyChart on their health and health care. Providers were questioned about the impact on the patient/provider relationship and workflow. Managers were asked about barriers to implementation. The interviews were recorded, transcribed verbatim, and entered into NVivo. A thematic analysis was used to analyze the data.

**Results:** Overall, we identified 38 enablers and 32 barriers combined across all groups. The enablers focused on having access to medical information, being informed, direct communication, ease of usage, and workflow. The barriers were lack of training and education, culture change, and lack of policies and procedures for usage. Similarities were noted between all the groups. Many enablers were barriers as well. Patients stated that MyChart has had a positive impact on their care and they would not want to see this system removed. Providers understood the importance, but stated that not all patients would benefit and it was an add-on to their workflow. For managers was about efficiency, innovation, and providing new ways for patients to manage complex chronic conditions.

**Conclusion:** The findings build on the identified need around understanding if there is a link between patient portal implementation and between patient portal adoption. Our study demonstrated a direct correlation between implementation, enrollment, and adoption. Furthermore, the enablers and barriers will be essential to policy development regarding patient portals.

**Author Names:** Melita Avdagovska, University of Alberta; Karin Olson, University of Alberta; Tania Stafinski, Health Technology and Policy Unit; Devidas Menon, University of Alberta

## *Lessons Learned From Implementing the Measurement and Monitoring of Safety Framework In Two Canadian Demonstration Projects*

Dr. Ross Baker, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Twenty years after “To Err is Human” (IOM, 1999) many clinical teams struggle to integrate patient safety into their daily work. Charles Vincent and colleagues (2013) developed the Measurement and Monitoring of Safety Framework (MMSF) which broadens safety beyond considerations of past harm to include reliability, sensitivity to operations, anticipation and preparedness and, integration and learning. Two Canadian learning collaboratives introduced clinical teams to the Framework and their experiences were assessed.

**Approach:** Nineteen healthcare teams in different clinical settings participated in two Learning Collaboratives. Teams were introduced to the framework in 3 face to face sessions with regularly scheduled follow up phone calls and site visits. Interviews were conducted with all participants and data from these interviews were analyzed using qualitative analysis. Interviews were recorded and transcribed and themes were developed by one researcher and validated by other members of the research team.

**Results:** Team members found the new 5-dimension framework challenging to learn since the teams were asked not to focus on a “project” but to adopt a new mental model of patient safety. Still most teams adapted the framework to interpret safety challenges. The shift from a focus on past harm to a more global and anticipatory approach was appealing. For many teams the value of the framework became evident when it was used to interpret specific events. These experiences were often unplanned and were catalytic in shifting team members views. As a result of their participation in the learning collaboratives many team members reported changes in team cultures and processes related to safety improvement, including being noticeably more willing to act on safety concerns.

**Conclusion:** Although the Measuring and Monitoring for Safety Framework is challenging to implement, its use can result in transformational changes in patient safety culture. Further testing of the learning strategies will enable more effective team learning and to enable spread and scale-up of this framework within and across healthcare organizations.

**Author Names:** Ross Baker, University of Toronto; Virginia Flintoft, Canadian Patient Safety Institute; Anne MacLaurin, Canadian Patient Safety Institute; Wayne Miller, CPSI



# *Factors influencing utilization of public healthcare and social services in the last year of life: a mixed methods systematic review protocol*

Mr. Sebastien Barbat, Institut National d'Excellence en Santé et Services Sociaux (INESSS)

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Healthcare utilization at the end of life is currently a hot topic as the number of adults aged 65 years and over grows rapidly with an increasing healthcare utilization during this period. From a management strongly linked to the pathology, the care of patients evolved to account for multiple social, economical, political, and environmental factors. Thus, the objective of this review is to identify factors influencing healthcare utilization at the end of life.

**Approach:** We conducted a systematic review in accordance with the JBI methodology for mixed methods. An initial limited search of PubMed was undertaken to identify relevant index terms and develop a full search strategy for MEDLINE, PsychINFO, CINAHL, SocINDEX and ASSIA, from inception to July 24th, 2019. Relevant journals, reviews and websites of health-related institutions were searched for additional reports and studies. Qualitative, mixed and quantitative empirical and observational studies reporting original data, as well as institutional reports reporting an association between any factors and health care received by older adults were included. The protocol was registered with PROSPERO (CRD42019147245).

**Results:** After duplicate removal, 6 622 papers and 49 reports were identified. Titles and abstract are being screened for assessment against the inclusion criteria (patients' age, identification of influencing factor(s) and influenced resources ...), by two independent reviewers. The following steps include full texts assessment of selected papers and extraction of relevant information. Yet, screening the abstracts already allowed us to establish a preliminary list of factors influencing healthcare utilization at the end of life. Among those factors are several patients-related (such as age, sex, the marital or the socio-economic status, the presence of advance directives), but also health system-related (hospital characteristics, the composition or the experience of the medical team, the communication between team members) and structural factors (culture and policy).

**Conclusion:** Preliminary results suggest that a broad spectrum of contextual factors influence the utilization of healthcare services at the end of life. In order to improve the quality of life of those older adults and tailor services to their needs, it becomes increasingly important to take those factors into consideration.

**Author Names:** Sebastien Barbat, Institut National d'Excellence en Santé et Services Sociaux (INESSS); Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal; Erin Strumpf, McGill University; Nevena Veljanovic, Institut National d'Excellence en Santé et Services Sociaux (INESSS)

## *Expanding the Medicare Basket: All or Nothing?*

Dr. Mary Bartram, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** To date efforts to expand Medicare have been fragmented, with services such as prescription drugs and mental health vying for priority. This competitive approach has limited the political base of support for reform and left those least able to afford care most likely to face the highest costs. Through a more systematic examination the range of services that fall outside of the Medicare basket, this study aims to lay the foundation for more comprehensive reform.

**Approach:** This policy case study examines the range of services that fall partially or fully outside of the Medicare basket in at least one province. First, the mix of public and private coverage for services such as dental, mental health, and vision care are identified, including how much of the costs are covered, for what range of care, and for what part of the population. This analysis is then extended to consider the extent and nature of interactions between insurance models for different services, and the contributing policy factors. Data is drawn from provincial government sources, professional associations, and benefit plans.

**Results:** Anticipated findings include extreme variations in insurance models for non-Medicare services within a province and a tendency to opt for targeted reforms with a narrower funding base. Inequities in access vary across each service, with different patchworks of employment-based benefits, targeted public insurance, limited direct public funding, and private care that is paid for out of pocket. Anticipated contributing policy factors include competition between service sectors, the dominant position of the medical profession within public health insurance, provincial concerns regarding cost containment and autonomy in the context of fiscal federalism, an electorate that is segmented into haves and have-nots, and an ideological orientation toward targeted approaches typical of liberal welfare states despite the universal first-dollar coverage provided within the Medicare basket.

**Conclusion:** Outside of the Medicare basket, inequities in access are pronounced but highly variable across services and holistic person-centred care is lost in the fray. Comprehensive reforms would be more costly for governments, but may be the only way to grow large enough political base to truly expand the Medicare basket.

**Author Names:** Mary Bartram, McGill University

## *Taking Stock of the Federal Targeted Homecare Transfer*

Dr. Mary Bartram, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** The targeted federal homecare transfer launched in 2017-18 and will transfer \$6B to provincial and territorial governments over ten years. Coming fifteen years after the Romanow Commission's homecare recommendations, this transfer represents an historic use of federal spending power to address gaps and inequities in access to homecare services. Three years into implementation of this federal reform, this study assesses progress to date and identifies key challenges and opportunities going forward.

**Approach:** This policy case study analyses the ideas, interests and institutional factors that have influenced the development of the targeted homecare reform, and how these same factors are influencing the implementation and future prospects. Data to support this analysis is drawn from bilateral transfer agreements that are now in place between the federal government and all thirteen provinces and territories, the Canadian Institute for Health Information reports on six common indicators agreed to by all jurisdictions, and three cycles of government budget documents.

**Results:** Anticipated findings regarding influential ideas range from broad concerns regarding inequities in access to homecare in the absence of public health insurance coverage, the importance of aging at home for both autonomy and cost-effectiveness, and evidence regarding the limited success of earlier Health Accords. Key interests include pressures from an aging population and from Personal Support Worker organizations. On the institution side, federalism limits the strength of accountability measures. Progress to date includes an overall elevation of homecare as a provincial and territorial priority, but a diffusion of impact through variable provincial and territorial implementation and relatively weak accountability mechanisms.

**Conclusion:** Reporting on six common indicators across jurisdictions will bring some accountability for the federal homecare transfers. Nevertheless, momentum for homecare transfers will be difficult to sustain without continued advocacy from key interest groups such as baby boomers.

**Author Names:** Mary Bartram, McGill University; Katerina Kalenteridis, Carleton University School of Public Policy and Administration

## *Antihypertensive prescribing for uncomplicated, incident hypertension: Opportunities for cost savings in Alberta*

Dr. Reed Beall, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Hypertension affects one in four Canadians aged 20-79. A range of medications are recommended for first-line treatment of uncomplicated hypertension, but thiazides are the most cost-efficient option, when considering drug costs only. We determined how often thiazides were prescribed as first-line treatment in Alberta, how much could be saved if more incident hypertension patients were prescribed thiazides, and factors that predict receiving thiazides versus more costly antihypertensive medications.

**Approach:** A cohort of patients with incident, uncomplicated, treated hypertension was identified using provincial administrative databases from April 2012-March 2017. Excluded complications included stroke, diabetes, and kidney disease. A patient's first prescription for hypertension was identified and categorized into thiazides (including hydrochlorothiazide, chlorthalidone, indapamide, and metolazone) or other antihypertensive agents. First prescription costs were estimated using price/pill, days prescribed, and pills/day. Potential cost savings were estimated by shifting patients who were prescribed other antihypertensives to thiazides and calculating the difference. Factors predicting receiving thiazides or other agents were determined using a mixed logistic regression model to address patients clustering within prescribers.

**Results:** Within our cohort of 119,525 adults with incident hypertension, the mean age was 57 years and 50% were female. Only 12% of the cohort received thiazides as first-line treatment. 35% received angiotensin converting enzyme (ACE) inhibitors, 20% received angiotensin receptor blockers, 19% received calcium channel blockers, and 13% received  $\beta$ -blockers. Hypertension medications were prescribed by 7,196 providers, typically by office-based, general practitioners (GPs) (89%). Being male, seeing a GP  $\leq 2$  times per year, and having co-occurring depression increased the odds of receiving a non-thiazide antihypertensive. If all patients received thiazides as their first prescription, over \$6,000,000 could have been saved during the study period on first prescriptions alone. Nearly half of this savings results from a reduction in the prescribing of ACE inhibitors.

**Conclusion:** Only 12% of Albertan adults with incident, uncomplicated hypertension were prescribed thiazides as first-line treatment. Given the large opportunity for drug cost savings, interventions targeting prescribing patterns of physicians could be designed to increase use of thiazides and reduce spending.

**Author Names:** Reed Beall, University of Calgary; Paul Ronksley, University of Calgary; Kerry McBrien, University of Calgary; Amity Quinn, University of Calgary; Braden Manns, University of Calgary; Lauren Bresee, University of Calgary; James Wick, University of Calgary; Au Flora, University of Calgary

*Examining the impact of enrollment in a non-medical home support service program, Better at Home, on seniors' use of health care services.*

Mr. Jonathan Beaumier, UBC Centre for Health Services and Policy Research

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** There is need to reorient health services to address population ageing. Better at Home, a program funded by the Ministry of Health and managed by the United Way of the Lower Mainland, provides a basket of non-medical home support services to seniors, aiming to enhance their ability to age in place. The purpose of this project was to undertake an evaluation of the impact of the program on the health service use of enrollees.

**Approach:** Participant identifiers were linked with data provided through PopData BC, including demographics, hospital discharges and admissions, prescriptions, and medical billings data. A propensity score method was used to match program participants to controls. A controlled interrupted time series design was used to assess the impacts of the program on the outcomes of total health care costs, ED visits, primary care visits, and hospitalizations by modeling relative trends of the outcomes before and after first program service use.

**Results:** A small decline in acute hospitalizations relative to controls was demonstrated, with non-significant impacts on the outcomes of total costs, ED visits, and primary care visits. Additionally, the program was successful in providing services to enrollees of lower socioeconomic status and poorer health status than the provincial average for individuals aged 65 or older. Modeling complexity demonstrates the need for a-priori evaluation planning to strengthen internal validity, as manifested in a variety of potential limitations.

**Conclusion:** Baby boomer aging necessitates health system adaptation in order to meet changing population needs. Small program impacts were demonstrated, and lessons learned from the initiative contributes to value and equity in Canadian healthcare by identifying areas for further research and refinement of service delivery models and their evaluation.

**Author Names:** Jonathan Beaumier, UBC Centre for Health Services and Policy Research; Kimberlyn McGrail, School of Population and Public Health, University of British Columbia; Centre for Health Services and Policy Research, University of British Columbia ; Megan Ahuja, CHSPR; Xiaotong Huang, UBC Centre for Health Services and Policy Research; Sandra Peterson, Centre for Health Services and Policy Research, UBC; David Whitehurst, Faculty of Health Sciences, Simon Fraser University; Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute

## *Patterns of substance use contributing to hospital stays among youth age 10 to 24*

Ms. Kinsey Beck, Canadian Institute for Health Information

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Youth are particularly vulnerable to the impacts of substance use, with early use increasing the risk of ongoing harmful use and lifelong dependence. In Canada, there is a growing need to develop and monitor indicators that capture the harm youth face from substance use — such as hospitalizations for poisoning or substance-induced psychosis. This work provides a pan-Canadian snapshot of hospitalization rates for substance use in youth, including repeat hospitalizations and concurrent mental health conditions.

**Approach:** This 2017-2018 study of youth age 10 to 24 is based on the new Hospital Stays for Harm Caused by Substance Use indicator released by the Canadian Institute for Health Information. This indicator captures harm from alcohol, opioids, cannabis, cocaine, other substances (e.g., hallucinogens/solvents) and unknown/mixed substances. It does not capture treatments or deaths occurring outside of in-patient hospital stays (e.g., does not include emergency departments; fatal overdoses in the community). The analysis includes hospitalization patterns at national and provincial/territorial level, by age, sex and substance type, treatment for concurrent mental health conditions, and inequalities by neighbourhood income and geography.

**Results:** In Canada, 65 youth were hospitalized every day for substance use and 17% were hospitalized more than once for substance use within the same year. Hospitalization rates increased with age, varied by sex and province/territory, and were higher for those in lower-income or rural and remote areas. Cannabis was related to 40% of all hospitalizations overall and was the first or second most common substance associated with hospitalizations across all provinces and territories. Alcohol was related to 26% of hospitalizations overall, with significantly higher hospitalization rates in British Columbia, Alberta, Saskatchewan and the Territories. A high proportion (27%) of hospital stays were related to unknown/mixed substances. 69% of hospital stays involved care for a concurrent mental health condition, nearly double the proportion in adults.

**Conclusion:** In 2017-2018, there were 23,580 hospital stays for harm caused by substance use among youth, with cannabis followed by alcohol accounting for the majority of these stays. Our findings highlight the importance of providing integrated and comprehensive services for youth, especially those experiencing concurrent substance-use and mental health conditions.

**Author Names:** Kinsey Beck, Canadian Institute for Health Information; Erin Pichora, Canadian Institute for Health Information; Noura Redding, Canadian Institute for Health Information; Mary-Ellen Hogan, Canadian Institute for Health Information; Christina Catley, Canadian Institute for Health Information; Geoff Hynes, CIHI; Ezra Hart, Canadian Institute for Health Information (CIHI)

*Early identification of mental health and addictions issues in children and youth to facilitate early intervention: A review of the literature to inform development of a national health system performance indicator*

Ms. Kinsey Beck, Canadian Institute for Health Information

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** In 2017, the federal government announced a \$5 billion investment over 10 years to support provincial and territorial efforts to improve access to mental health and addiction (MHA) services. Following extensive consultations, improving early identification and intervention for MHA issues among children and youth was selected as a Shared Health Priority (SHP). A narrative review was conducted to scope existing measurement approaches of this SHP to inform development of a national health system performance indicator.

**Approach:** Relevant articles were located by searching MEDLINE, CINAHL, Embase, PsycINFO, and the grey literature from January 2000 to February 7, 2019. The review identified publications that reported (1) definitions for early identification and/or intervention of MHA issues in children and youth aged 10 to 25, (2) evidence-based early interventions, and (3) related performance indicators. Literature related to mental health and substance use disorders with a typical onset before age 10 and studies about tobacco-use were excluded. A descriptive analytical approach was used to summarize study population, definitions and current indicators that have been applied to measure these concepts.

**Results:** Of 10,838 unique publications, 213 articles met the target criteria and were included in the narrative synthesis. The grey literature search identified 4 relevant clinical guidelines. There was no standard definition for “early” identification or intervention for MHA issues among children and youth. “Early” was defined based on 6 concepts: (1) age, (2) presence of symptoms, (3) duration of untreated symptoms, (4) experience of impairment, (5) subjective need for care, and (6) impact on the developmental trajectory of youth. Transdiagnostic and targeted early interventions were identified that resulted in improvements in MHA outcomes. Eleven unique indicators were identified that measured concepts related to the early identification and/or intervention of MHA conditions. Indicators were identified for psychosis (n=9), depression (n=1) and any MHA condition (n=1).

**Conclusion:** This narrative synthesis will inform the development of an indicator measuring early identification and/or intervention for MHA issues in children and youth, to be publicly reported in 2022. Continued collaboration with the provinces and territories will facilitate pan-Canadian level data collection, monitoring and reporting on timely access to MHA services.

**Author Names:** Kinsey Beck, Canadian Institute for Health Information; Clement Li, Canadian Institute for Health Information; Danielle Rice, McGill University; Ottawa Hospital Research Institute; Jean Harvey, Canadian Institute for Health Information ; Ania Syrowatka, Canadian Institute for Health Information

## *Identification of Barriers and Facilitators to Integration of PROMs in Routine Pediatric Clinical Care for Asthma*

Mr. Sumedh Bele, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Integrating Patient-Reported Outcomes Measures (PROMs) in routine clinical care has shown to have positive impact on health and healthcare, however, there is a scarcity of evidence on the implementation of PROMs in routine pediatric chronic clinical care. Asthma is the most common chronic condition among children, therefore, this qualitative study aims to identify barriers and facilitators to the integration of PROMs in the routine pediatric clinical care at the Alberta Children's Hospital (ACH) Asthma Clinic.

**Approach:** This study is guided by the Theoretical Domains Framework (TDF). The interview guide for data collection includes two to four questions for each of the 14 domains of the TDF. Using stratified purposive sampling strategy, we are recruiting a diverse sample of 20 healthcare providers, pediatric patients receiving care at the asthma clinic and their family caregivers to conduct 14 semi-structured individual interviews and one focus group. Interview and focus group recordings are being transcribed verbatim. Qualitative data analysis software NVivo 12 (QSR, Australia) is being used to code, organize, and manage the data to facilitate data interpretation and analysis.

**Results:** Data collection and analyses is currently underway, and the results will be available at the time of the conference. Results of this study will be shared with the staff at the ACH asthma clinic to enhance their understanding of the barriers and facilitators to implementation of PROMs in within their own clinic. Facilitators identified through this study will be utilised to facilitate uptake of PROMs, while the barriers will be mitigated using various behavioural change techniques that are likely to change behaviour among potential users of PROMs. These results will be crucial to inform the next phase of the study i.e. piloting the implementation of PROMs using an electronic platform (KidsPRO) at the ACH asthma clinic.

**Conclusion:** Whilst some evidence exists for the enablers and barriers to integration of PROMs in adult care, a comprehensive, systematic, and theory-informed exploration of barriers to the integration of PROMs in routine asthma clinical care is lacking. This study attempts will fill this knowledge gap.

**Author Names:** Sumedh Bele, University of Calgary; María José Santana, Cumming School of Medicine, university of Calgary



## *Delivering high-quality follow-up care in a digital age: public support for virtual cancer care in British Columbia*

Ms. Colene Bentley, Canadian Centre for Applied Research in Cancer Control - BC Cancer

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Two-thirds of cancer survivors are expected to survive more than 5 years after their diagnosis, yet many survivors need support in managing the complex physical, psychosocial and financial impacts of their diagnosis long after treatment completion. Supporting the growing number of survivors requires a care delivery system that is effective, person- and family-centred, and sustainable. However, little evidence exists on the effectiveness of different models of survivorship care.

**Approach:** A public deliberation on cancer funding was held in Vancouver . We asked British Columbians what was important to them about survivorship care, based on their experiences with the health-care system. Cancer care involves large investments of public resources, often at the expense of other health and social priorities, making it appropriate to consult the public so allocation decisions reflect citizens' values. The Burgess-O'Doherty approach to public engagement was used. Participants compared components of family practice-coordinated, oncologist-coordinated, and individual-coordinated models of survivorship care to identify which components were important. Event transcripts were analyzed thematically using NVivo.

**Results:** Equity of access to high-quality health care was an important principle to participants (n=29). They strongly supported specialized follow-up care as a choice given to all survivors regardless of where they live (urban or rural) or the care delivery mechanism (in person or via tele- or video conferencing). Digital communication was an acceptable means of connecting patients and families with practitioners knowledgeable about the late effects of treatment. Specialists—i.e., nurse practitioners and physicians with added competency in oncology—would manage survivorship care from within the cancer system, so survivors would be less vulnerable to care fragmentation, loss to follow up, and misinformation, which had characterized participants' experiences in the general health system. These results are consistent with survivors' views of care plans.

**Conclusion:** Public input can be used with input from survivors to inform cancer care delivery. Our findings suggest that a mixed modal approach—i.e., combining in-person and virtual care—may be an acceptable and efficient way to provide long-term survivorship care. Oncology-trained practitioners may play a pivotal role in this approach.

**Author Names:** Colene Bentley, Canadian Centre for Applied Research in Cancer Control - BC Cancer ; Stuart Peacock, Canadian Centre for Applied Research in Cancer Control; Helen McTaggart-Cowan, Faculty of Health Science, Simon Fraser University; Michael Burgess, University of British Columbia

## *Integrating Nurse Practitioners into Primary Care: A case study and policy considerations from Alberta*

Ms. Stacey Black, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The integration of Nurse Practitioners (NPs) into primary care system have been an object of interest for policy makers seeking to achieve the goals of improving care, increasing access, and lowering cost. Alberta recently introduced a policy aimed at integrating NPs into existing primary care delivery structures. This research sought to understand how that policy – the NP Support Program (NPSP) – was viewed by key stakeholders and to draw out policy lessons.

**Approach:** 15 interviews with NPs and other stakeholders in Alberta's primary care system were conducted, recorded, transcribed and analyzed using the Interpretive Description method.

**Results:** Stakeholders' described limited job opportunities and limiting employment conditions leading to the underutilization of NPs in the province. Specifically, they attributed low levels of NP integration into the primary care system to: 1) financial viability issues that touched NPs, physicians, and primary care networks (PCNs); 2) policy issues related to the NPSP's reliance on PCNs as employers, and a requirement that NPs maintain a patient panel; and 3) governance issues in which NPs are not afforded sufficient authority over their role or how the key concept of 'care team' is defined and operationalized.

**Conclusion:** In general stakeholders did not see the NPSP as a plausible vehicle for increasing NP integration into the province's primary care system. Policy adjustments that enable NPs to access funding directly and autonomously with options of a salary, FFS or an alternative arrangement with the government is recommended.

**Author Names:** Stacey Black, University of Calgary ; Myles Leslie, The School of Public Policy, University of Calgary

## *Can activities among healthcare professionals be more efficiently distributed?*

Mrs. Roxane Borgès Da Silva, Université de Montréal

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Shortage of health professionals, suboptimal use of service providers, or conditions of practice that do not promote collaboration may compromise the efficiency of health services and have impact on healthcare quality. Several countries have focused on better use of health human resources: skill mix and task shifting are options which could improve healthcare efficiency.

**Objective :** to identify which activities carried out by health professionals can be transferred/delegated to other and thus generate higher efficiency.

**Approach:** We used a qualitative exploratory research design. Eleven semi-structured individual interviews were conducted with key stakeholders (professional orders, professional services directors, decision makers and health facility directors). Twenty-three individual interviews were conducted with nurses (4), nurse practitioners (6), beneficiary attendants (4), general practitioners (5) and medical specialists (4). Interviews addressed the following themes: overview of activities shared, types of activities that could be shared, type of activities that must be reserved, success factors, necessary conditions or prerequisite, barriers, advantages and disadvantages of sharing activities. Interviews were analyzed using a directed content analysis strategy using NVivo 12 Plus (version 12.1.55).

**Results:** Interviews enabled to clarify the following concepts and their differences: transfer, share and delegation of tasks and activity. The framework of Borges Da Silva & Dubois was used to classify activities that could be delegated or transferred in two dimensions: clinical activities (direct and indirect care for patients) and non-clinical activities (administrative and management activities, maintenance and equipment). The interviews highlighted several activities that could be transferred or delegated between all members of the care team. The majority of them related to the transfer and not to the delegation. Sharing activities could bring benefits to the healthcare system (efficiency and effectiveness), to health care professionals (better collaboration, satisfaction, motivation, etc), to patients (better accessibility, quality of care)

**Conclusion:** This study has highlighted several activities that could be delegated or transferred between the different members of the care team and that could improve the efficiency of and access to health services.

**Author Names:** Roxane Borgès Da Silva, Université de Montréal ; Régis Blais, Université de Montréal; Carl-Ardy Dubois, Université de Montréal; Marie-Claire Ishimo, School of Public Health & Public Health Research Institute - University of Montreal

*Understanding variation and complexity in health care trajectories at the end of life to improve patient care: machine learning methods and provincial administrative health data*

Dr. Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** We expect a significant demographic shift for the Quebec population as the proportion of seniors in Quebec will increase from 16 to 31% by 2031. Concerns and challenges emerge as prevalence of multiple chronic diseases increases with age. Moreover people at the end of life, utilize considerable amount of acute health care services. We aim to describe patients' health care trajectories in their last year of life to better organize services around patients' needs.

**Approach:** Using Quebec's administrative health data, we constituted a retrospective cohort of patients at the "end of their life", including all Quebec individuals deceased at age 66 and over, between April 1, 2000 and March 31, 2018 (inclusive). We applied machine-learning techniques on individual health care trajectories to identify and distinguish different patterns of health care utilization in the last year of life. Using unsupervised machine-learning on a large-scale perspective allowed us to highlight, without a priori constraints or assumptions, key messages that could help to better understand the patterns health care services uses.

**Results:** We identified 830,300 deceased for an average of 46,129 per year. They were mainly women (53%), with an average age of death of 82, and the Montreal region accounting for 25% overall. For each individual, we extracted all information about the use of health care services over the last 12 months before death. Due to the large number of variables and repeated interactions with the health care system, an important work of data management is currently ongoing to rebuild trajectories. However, we performed preliminary analyses on 10% of the population, and results already showed interesting trends by gathering individuals in long-term care, individuals hospitalized for long periods, individuals hospitalized during the last months of life, and individuals with little contact with the health care system.

**Conclusion:** Machine-learning techniques combined with massive administrative health databases offer innovative possibilities to provide a better knowledge of trajectories in the last year of life, allowing us to identify and classify trajectories of health care services, and to describe these patterns to better understand the health care use at the end-of-life.

**Author Names:** Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal; Sebastien Barbat, Institut National d'Excellence en Santé et Services Sociaux (INESSS); Roxane Borgès Da Silva, Université de Montréal ; Aude Motulsky, Université de Montréal; Erin Strumpf, McGill University

## *Evaluation of the Manitoba Healthy Baby Prenatal Benefit: Is it Improving Metis Birth and Early Childhood Outcomes?*

Dr. Marni Brownell, Manitoba Centre for Health Policy

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Indigenous Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** In Manitoba, low-income pregnant women are eligible for the Healthy Baby Prenatal Benefit (HBPB), an income supplement of up to \$81.41/month provided during the second and third trimesters of pregnancy. The objective of this study was to determine the impact of the HBPB on Metis newborn and early childhood outcomes. The study is part of a program of research conducted in partnership between the Manitoba Metis Federation and the Manitoba Centre for Health Policy (MCHP).

**Approach:** Using MCHP's population-wide cross-sectoral Data Repository, we identified all Metis women giving birth in Manitoba 2003-2011 (N=17,939). To develop comparable groups receiving (treatment) and not receiving the HBPB (control), our analysis focused on Metis women receiving income assistance during pregnancy (n=4,852). Adjustment for differences between treatment (n=3,681) and control (n=1,171) groups used propensity score weighting. We used multi-variable regressions to compare outcomes between groups: breastfeeding initiation, low birth weight, preterm birth, small- and large-for-gestational age, Apgar scores, birth hospitalization length of stay (LOS), neonatal readmissions, infant hospitalizations, immunizations at 1 and 2 years, and child development scores at kindergarten.

**Results:** Receipt of the HBPB was associated with reductions in low birth weight (adjusted Relative Risk (aRR): 0.74 (95% CI: 0.59, 0.94)), preterm births (aRR: 0.78 (0.65, 0.94)) and small-for-gestational age births (aRR: 0.84 (0.69, 1.00)), and increases in breastfeeding initiation (aRR: 1.04 (0.99, 1.09)), large-for-gestational age births (aRR: 1.21 (1.06, 1.38)), and neonatal readmission (aRR: 1.58 (1.05, 2.37)). The birth hospitalization LOS was also lower for newborns whose mothers had received versus not received the HBPB (Mean Difference = 0.31 days). HBPB receipt during pregnancy was associated with increases in 1- and 2-year immunizations for children (aRR: 1.07 (1.00, 1.15), and aRR: 1.11 (1.05, 1.18) respectively). No significant associations were found for Apgar scores, infant hospitalizations, or child development scores.

**Conclusion:** A modest unconditional prenatal income supplement to low-income Metis women was associated with improved birth outcomes and child immunizations; however, an association with increased neonatal readmissions warrants further exploration. Lack of significant associations between HBPB and child development measures suggests more sustained support may be necessary to improve longer-term outcomes.

**Author Names:** Marni Brownell, Manitoba Centre for Health Policy; Julianne sanguins, ; Mariette Chartier, ; Nathan Nickel, University of Manitoba; Jennifer Enns, ; Dan Chateau, University of Manitoba; Elaine Burland, ; Joykrishna Sarkar, Manitoba Centre for Health Policy; Janelle Boram Lee, University of Manitoba; Aynslie Hinds, ; Farzana Quddus, Manitoba Centre for Health Policy; Frances Chartrand, Manitoba Metis Federation

## *Disseminating primary health care research findings in public libraries: an empirical qualitative study with citizens in Quebec*

Dr. Francesca Brundisini, Université Laval

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**Category:** Oral Presentation

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Strategies for actively disseminating primary health care research findings are increasingly focusing on active exchanges of knowledge with citizens, i.e. the beneficiaries of care. Recent studies show that little is known about knowledge exchange with the public in non-clinical settings. To reduce this gap, this study aims at empirically exploring what knowledge Quebecois citizens value in a dissemination intervention held in public library networks.

**Approach:** We adopted a qualitative interpretative descriptive methodology to inductively capture a collection of values that inform Quebecois citizen's understanding and conceptualization of knowledge in public dissemination dialogue session. To do so, a multidisciplinary committee comprised of researchers, public library officials, patient partners, communication specialists (CS), and physicians designed a 1.5-hour interactive workshop to present research evidence in public libraries (45min-presentation + 45min-knowledge exchange). The workshop content focused on potentially inappropriate prescriptions among elderly. A physician conducted the workshop and a CS moderated the knowledge exchange session. The exchange sessions were then recorded and transcribed for analysis in Nvivo.

**Results:** In total, 362 public participants, 18 physicians, and 6 CS participated at 23 interactive workshops. Most citizens were women with a mean age of 64. Following their interaction with the research evidence, citizens greatly valued informed decision-making, prioritizing access to accountable, trustworthy, and transparent expert knowledge while respecting patient's freedom of choice. Choice was framed as both access to expert and empirical evidence-based sources of knowledge as well as participation in the prescription decision-making process. Physicians and CS prioritized scientific research evidence and pathophysiological sources of knowledge, while also including knowledge intended as expert opinions, professional and credibility values, while invoking patients' autonomy in the shared decision-making process.

**Conclusion:** These preliminary findings offer insights into the values, that together with evidence, should inform dissemination interventions with the general public. Identifying and describing values help build an understanding among those who hold different views and devise a dissemination strategy that targets the general public in a clear and effective way.

**Author Names:** Francesca Brundisini, Université Laval; Hervé Zomahoun, Quebec SPOR Support Unit; Maude Laberge, Université Laval; José Massougbojji, Quebec SPOR Support Unit; Lionel Adisso, CERSSPL; Jasmine Sawadogo, Quebec SPOR Support Unit; Valerie Borde, Declic; Cynthia Cameron, Université Laval; Hélène Moisan, Bibliothèque de Québec; Jean-Sébastien Paquette, Université Laval; Zamzam Akbaraly, Université de Sherbrooke; Léa-Kim Châteauneuf, Direction des bibliothèques, Service de la culture; Genevieve David, 1) Centre de recherche du CHUM, 2) École nationale d'administration publique; Mame Awa Ndiaye, Quebec SPOR Support Unit; Léa Langlois, CERSSPL; Priscille-Nice Sanon, Centre intégré de santé et de services sociaux de la Montérégie-Ouest; Julie Paradis, Direction des bibliothèques, Service de la culture - Ville de Montréal ; Sarrah Osama, Direction des bibliothèques, Service de la culture - Ville de Montréal ; France Légaré, Laval University

*Improving nursing home care on a large scale: a scoping review to identify scale-up approaches in nursing homes*  
Dr. Thekla Brunkert, University of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Healthcare systems are confronted with a growing and increasingly complex geriatric population. Nursing homes are particularly challenged given residents' increasing care needs. While numerous interventions to improve nursing home quality care are published, little is known about how to spread effective interventions across sites or regions. This scoping review aims to synthesize the literature on approaches to scale-up interventions in nursing homes and to evaluate the studies' adherence to recommended steps defined in scale-up frameworks.

**Approach:** We searched MEDLINE, Embase, PsycINFO, CINAHL, Global Health, SCOPUS and Ageline from database inception to June 2019 and consulted grey literature. Documents were included if they addressed attempts to scale-up interventions across nursing homes. Two reviewers independently reviewed and extracted data from included documents using kappa values to assess reviewer agreement. Data extraction was guided by the ExpandNet model and focused on a) general study characteristics and scale-up parameters (e.g., intervention, scale-up approach and magnitude); b) steps to develop a scale-up strategy (e.g. measures to ensure intervention scalability, capacity building); and c) outcome measures and evaluation approaches.

**Results:** From 1294 original records, we included five peer-reviewed studies and one improvement report in our preliminary results after screening for inclusion criteria. Four studies reported approaches to reduce inappropriate medication prescription, while the others focused on interdisciplinary care networks and implementation of function-focused care. Limited information about the development of scale-up strategies were provided, and most authors described some form of stakeholder involvement and/or establishing of steering groups. Strategies recommended by scale-up frameworks, e.g. assessment of organizational implementation capacity were scarcely reported. Most studies measured outcomes related to healthcare providers (e.g. use of antipsychotic medication) and residents (e.g. falls, hospitalization rates) and provided additional types of anecdotal evidence (e.g. cost reduction). Authors rarely reported on implementation outcomes and only one study applied an evaluation framework.

**Conclusion:** Few authors have sought to scale-up interventions across the nursing home sector. While frameworks exist to guide the development of scale-up strategies, to date most studies only partly adhere to these recommended steps. Rigorous approaches to scale-up effective interventions are crucial for large-scale improvement of nursing homes' quality of care.

**Author Names:** Thekla Brunkert, University of Manitoba; Malcolm Doupe, University of Manitoba; Matthias Hoben, University of Alberta; Janice Keefe, Mount Saint Vincent University; Whitney Berta, University of Toronto; Sarah Filiatreault, University of Manitoba

## *A Performance Measurement Framework for Integrated Care Networks and Application to Ontario Health Teams*

Dr. Suman Budhwani, Women's College Hospital Institute for Health System Solutions and Virtual Care

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Health systems worldwide are transitioning to integrated care networks (ICNs) that bring together health care, social care, and related services. Achieving integrated care relies on several critical activities including performance measurement. The objective of this study was to review the literature on integrated care measures and propose a performance measurement framework for ICNs. A secondary objective was to apply the framework to Ontario Health Teams (OHTs), which are ICNs being developed in Ontario.

**Approach:** A scoping review was conducted based on the PRISMA extension for Scoping Reviews. Search parameters included English-language, peer-reviewed and grey literature articles published between 2000 and 2018 that described measures of integrated care; databases included CINAHL, Medline, Psychinfo, Embase and Google Scholar. Measures of integrated care were collected from included articles and classified as either process or outcome measures. Thematic analysis was conducted to identify key measurement domains and subdomains. From this, a logic model was constructed and used to propose a performance measurement framework. This framework was then applied to care scenarios synthesized from publicly available OHT applications.

**Results:** The initial scoping review search found over 2600 articles; of these, 278 were deemed potentially relevant and screened, resulting in the inclusion of 70 articles. A total of 340 measures of integrated care were found in these 70 articles. A performance measurement framework was constructed inclusive of process and outcome domains and subdomains of measurement. Process measures were divided into 1) activities with measurement areas including personalized care, coordinated care, and interprofessional collaboration, and 2) outputs including patient empowerment, communication, continuity of care, planned care, and access. Outcomes domains were mapped to the quadruple aim and included user experience (patient, caregiver), provider experience, health outcomes (system-level, person-level), and cost/utilization. Using this performance measurement framework, key measurement domains and subdomains were selected for OHTs.

**Conclusion:** The performance measurement framework for integrated care networks provides a useful approach for thinking about the evaluation of performance for integrated care and identifies key areas of measurement. This will be particularly relevant for new integrated care initiatives such as Ontario Health Teams as they engage in performance measurement activities.

**Author Names:** Suman Budhwani, Women's College Hospital Institute for Health System Solutions and Virtual Care; Reham Abdelhalim, Institute of Health Policy, Management and Evaluation, University of Toronto; Jay Shaw, Women's College Hospital; Patrick Feng, Institute of Health Policy, Management & Evaluation, University of Toronto; Ross Baker, University of Toronto



## *Why stakeholders matter in policy implementation: An examination of citizen and stakeholder engagement in the implementation of Ontario's mental health and addictions strategy*

Dr. Heather Bullock, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** In Ontario, Canada, the government's most recent mental health reform effort, Open Minds, Healthy Minds, Ontario's Comprehensive Mental Health and Addictions Strategy (the Strategy), is unique from past efforts in terms of the scope of the goals and the New Public Governance-inspired processes used to develop and implement it. This approach is promising in areas such as mental health, where effective change requires the mobilization of multiple actors across multiple sectors.

**Approach:** This study addresses two questions: 1) Who was engaged in the implementation of the Strategy and how were they engaged? and 2) How and why did their involvement contribute to the implementation process and early outcomes? We used a single case study design and engaged Ontario Ministry of Health staff in an integrated KT approach. We used two complementary analytical methods: 1) stakeholder analysis, and 2) key informant interviews and document analysis. A total of 14 interviews were conducted and 21 documents analyzed using directed content analysis and drawing from theoretical frameworks regarding political and actor-related determinants of implementation.

**Results:** Stakeholder mapping highlighted the range of inter-dependent actors who were involved, the multiple ways that they provided input, and the structures through which they provided input. The analysis of the political landscape identified the role of interests as having a large influence on the implementation process and early outcomes, particularly political actors' decision to tie the process to their election platform. Relational and contextual variables contributed to this influence. For example, the relative instability of the policy actors had a negative impact on the process, although participants were impressed with the level of dedication and commitment of the individuals involved.

**Conclusion:** Based on our findings, we offer five considerations for policy and systems leaders when undertaking similar initiatives.

**Author Names:** Heather Bullock, McMaster University; John Lavis, McMaster University; Gillian Mulvale, McMaster University; Michael Wilson, McMaster Health Forum; Celine Mulhern, Ontario Ministry of Health

*A profile of adults with diabetes mellitus in Newfoundland and Labrador: a population-based, cross-sectional analysis*  
Mr. Richard Buote, Memorial University of Newfoundland

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**Category:** Oral Presentation

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Newfoundland and Labrador (NL) has the highest rates of chronic diseases in Canada. However, the current state of many chronic diseases, including diabetes mellitus (DM), has not been well profiled in the province. This study aimed to profile the demographic characteristics and clinical management of DM in NL, specifically examining rural-urban differences.

**Approach:** A population-based, cross-sectional analysis was performed using data from the provincial Chronic Disease Registry for the 2015/16 fiscal year. The analysis included patients with DM aged 20 years and older with documented age, sex, and geographic identifiers. Demographic characteristics, DM management clinical indicators (i.e. hemoglobin A1c [HbA1c]; low-density lipoprotein cholesterol [LDL-C]; urine albumin-to-creatinine ratio), and hospitalization rates were examined. Demographic characteristics and clinical indicators were described using descriptive statistics. Differences between patients who live in urban and rural communities were compared using independent samples t-test or Pearson's chi-square test.

**Results:** In total, 66,247 individuals with DM in NL met inclusion criteria (mean age=64.1 years; 56.3% rural residents). A greater proportion of rural residents, as compared to urban residents were aged 65-79 years (41.2% vs. 37.5%), were female (50.2% vs. 48.7%), and were identified as having DM based on laboratory case definitions only (19.6% vs. 13.1%). Rural residents had significantly worse clinical outcomes, as compared to urban residents, with respect to HbA1c ( $7.40 \pm 1.49$  vs.  $7.26 \pm 1.50$ ,  $p < 0.001$ ) and LDL-C ( $2.46 \pm 0.95$  vs.  $2.36 \pm 0.94$ ,  $p < 0.001$ ). A total of 13.7% of participants were hospitalized during the cohort year but there were no significant differences in all-cause hospitalizations between urban and rural patients. Slightly more rural residents were hospitalized for renal disease ( $p = 0.011$ ), but the number of individuals hospitalized was small.

**Conclusion:** A concerning number of patients with DM in NL have poor clinical outcomes, with patients in rural regions performing worse than their urban counterparts. Further research should explore the causes of poor DM management in NL, specifically examining the relationship between DM outcomes and the availability of primary healthcare services.

**Author Names:** Richard Buote, Memorial University of Newfoundland; Julia Lukewich, Memorial University; John Knight, Primary Healthcare Research Unit; Shabnam Asghari, Memorial University; Kris Aubrey-Bassler, Memorial University; Maria Mathews, University of Western Ontario

## *Reducing the Impact of Distance on Hematopoietic Cell Therapy Patients*

Ms. Diane Burns, Ontario Health - Cancer Care Ontario

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Cancer

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Hematopoietic Cell Therapy (HCT) patients experience unique travel challenges and high out-of-pocket costs due to the highly specialized care required. We conducted a mixed methods study to understand current patient support programs in Ontario and other jurisdictions and an analysis to determine travel patterns for HCT patients in Ontario. We developed a cost analysis model to inform the development and implementation of recommendations to reduce the impact of remoteness on HCT patients and caregivers.

**Approach:** We gathered qualitative information on patient travel supports through informal and structured input from Hematologists, Patient and Family Advisors, Indigenous Navigators and fourteen Ontario Regional Cancer Program Directors. We performed an environmental scan of medical travel assistance programs within Ontario and other jurisdictions and conducted a scoping literature review of published studies focused on inequities in receipt of cancer care in countries with Universal Health care.

We obtained HCT patient travel patterns in Ontario from analysis of Cancer Care Ontario data holdings, and developed a costing model to estimate the number of accommodation nights HCT patients would require.

**Results:** We found that travel assistance for cancer patients in Ontario varies considerably across the province, and that Ontario lags behind other jurisdictions in Canada and internationally.

The scoping literature review revealed that patients who live far from specialist centres, for some diseases, have later stage at diagnosis, less timely access to specialist care, poorer outcomes, lower patient experience scores, and make treatment decisions based on distance.

From the analysis of travel patterns, we found that 22% (244/1220) of HCT patients in Ontario traveled greater than 100km each way for their treatment.

The costing model considers the number of nights of accommodation required for both allogeneic and autologous HCT patients at each phase of care, from graft acquisition to follow-up.

**Conclusion:** This study highlights the need to better support HCT patients in Ontario

As a result of this study, the Ontario government funded a program to support outpatient accommodations for Ontario HCT patients who travel greater than 100km for treatment, beginning in 2018/19, and the program is in its second year.

**Author Names:** Diane Burns, Ontario Health - Cancer Care Ontario; Vicky Simanovski, Cancer Care Ontario; Victoria Hagens, Cancer Care Ontario

## *Building and Maintaining a Provincial Population Health Monitoring System: Lessons from a Case Study*

Dr. Cheryl Camillo, Johnson Shoyama Graduate School of Public Policy

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** It is time to move from the "why" and "what" of population health to "how." Governments are increasingly avowing their support for a population health approach to running their health systems, but are failing to adopt it. A key step to successfully implementing the population health approach is to establish a monitoring system to collect, share, analyze, and report cross-sectional and longitudinal data about the health of the jurisdiction's population, as well as disparities within.

**Approach:** This original, revelatory case study examined the extent to which a public health system—in this case a provincial health system that had previously announced its intent to pursue the population health approach—organizes, funds and performs monitoring functions. The qualitative study employed multiple sources of evidence, including archival documents, public reports, databases, and semi-structured interviews with current and former health system leaders at all levels of government, to identify and describe historical and current monitoring activities across the province. Through iterative data collection and analysis, facts were corroborated, theories developed and tested, and barriers to fully successful implementation determined.

**Results:** The following barriers to building and maintaining provincial population health monitoring systems were identified: gaps and seams in insurance coverage; politicization of data elements; lack of intergovernmental collaboration; privacy legislation; interprofessional and interdisciplinary divides; insufficient interest on the part of important stakeholders; disjointed planning; and common public management challenges, such as budget constraints, political demands, and excessive workloads.

Lessons and recommendations for overcoming these barriers include, but are not limited to: fill gaps in coverage, including by publicly insuring outpatient prescription drugs; eliminate or streamline seams in coverage like those between provincial health plans and Canada's Non-Insured Health Benefits program; centralize registries; incentivize stakeholder participation through regular information sharing; appoint strong, communicative leaders; and integrate strategic planning across the provincial government and health system.

**Conclusion:** Canadian provincial/territorial policymakers and health system leaders can draw from this practical case study to build or improve population health monitoring systems. Leaders of other subnational governments can also apply these lessons because they are transferable to substate health systems that coordinate with other levels of government.

**Author Names:** Cheryl Camillo, Johnson Shoyama Graduate School of Public Policy

## *Giving a voice to the voiceless: Use of an arts-based approach to understand the challenges of managing diabetes while homeless*

Dr. David Campbell, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Individuals experiencing homelessness are more likely to develop diabetes, and experience more complications. Managing diabetes while homeless presents a litany of challenges. We sought to gain an understanding of those challenges from the perspective of those with lived experience. Informed by participatory research methodology, we established a community-based group of lived-experience experts to explore the impacts of homelessness on the management of diabetes. The group met eighteen times over the course of 6 months.

**Approach:** The Toronto-based community group collectively chose a research topic, question, and study design. They identified inability to access healthy food as the biggest obstacle to managing diabetes while homeless. Specifically, the question addressed was: what makes it challenging to eat well with diabetes while homeless? To allow more latitude on topic, a secondary research question was added: What has been a major help or barrier to your management of diabetes while homeless? Group members decided to carry out photovoice and received necessary training to do so. Thematic analysis of the resulting 17 photos and narratives was undertaken.

**Results:** Four themes were identified. First, homelessness negatively impacts emotional and mental health, which impairs one's ability and desire to make healthy food choices, adhere to medication regimens, and otherwise manage diabetes. Second, shelter life is not compatible with healthy eating. Meals provided are carbohydrate heavy, and lack important nutrients. Nutritional information is unknown and food is unpalatable, pushing residents to seek affordable and often unhealthy food outside the shelter. Third, while there are benefits to getting housed (e.g. kitchen access, a safe and secure place to keep prescriptions), new challenges emerge, including the expense of nutritious food, and learning to cook healthy meals. Finally, in response to the second question, easier access to healthcare services and prescription medications emerged as crucial.

**Conclusion:** There are many challenges to managing a complex chronic disease when one lacks autonomy. Individuals' experiences of homelessness and diabetes are diverse. Results of this study are first hand, in depth accounts of struggles to manage diabetes while homeless, rather than being seen through the lens of a researcher.

**Author Names:** David Campbell, University of Calgary; Rachel Campbell, University of Calgary; Kerry McBrien, University of Calgary; Gillian Booth, St. Michael's Hospital; Stephen Hwang, St. Michael's Hospital; Dwayne Hunte, Clients with Diabetes Action Committee

## *Diabetes self-management and homelessness: Using concept mapping to understand and prioritize challenges*

Dr. David Campbell, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Diabetes is a chronic medical condition which demands that patients engage in self-management to achieve optimal glycemic control and avoid severe complications. Individuals who experience homelessness and who have diabetes are known to have poorer glycemic control and more adverse outcomes. Our objective was to collaborate with individuals living with homelessness to better understand the barriers they face in managing diabetes, as a first step in identifying solutions to enhance diabetes management in this population.

**Approach:** We used Concept Mapping, a participatory research method, which engages participants in brainstorming activities to generate ideas that are subsequently categorized and ranked in terms of their relative importance. We recruited 30 individuals who had lived experience of both homelessness and diabetes in Toronto and 20 Canadian health and social care providers who look after patients with experience of diabetes and/or homelessness. Participants collectively generated a list of barriers to diabetes management, then individually sorted these into categories and ranked the relative impact of each barrier on diabetes management. Concept Systems Global MAX was utilized to generate ranked maps.

**Results:** Brainstorming activities identified 43 discrete barriers to diabetes management. The map generated by clients featured 9 clusters of barriers to diabetes management, presented here by level of impact: Challenges to getting healthy food; Emotional wellbeing & stress; Weather-related issues; Inadequate income; Relationships with professionals; Diabetes knowledge; Not having a place of your own; Navigating services & providers; and Competing priorities. The providers map was similar in some respects but included more biomedically-focused clusters with titles such as: mental health & addictions; and diabetes education. There was discordance between the groups as the clusters perceived as most impactful by providers were mental health & addictions and shelter-specific considerations, whereas the most impactful clusters for the lived experience group were rated among the lowest by providers.

**Conclusion:** Experiencing homelessness poses numerous barriers to ones' ability to manage diabetes. This study showed that how clients and providers perceive these barriers differs considerably, highlighting the need to routinely gather the insight of clients when assessing needs and designing effective solutions, rather than relying on providers to represent clients' perspectives.

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## *Community-based Participatory Research and Knowledge Translation: Lessons from a Toronto-based client group*

Dr. David Campbell, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Diabetes is a chronic disease that demands intensive self management through exercise, prescription medication regimens, diet management, regular screenings with different health care providers, blood sugar testing, and more. Patients with diabetes who experience homelessness have poorer glycemic control and suffer more severe complications than their housing-stable peers. While some research has been done on this subject, the perspective of individuals with lived experience of both conditions has not been well documented.

**Approach:** Community-based Participatory Research (CBPR) is an approach that strives for maximal involvement of study participants in all aspects of the research: study design, identification of the research question, data collection, analysis, and interpretation. The lived experience of participants is valued. Knowledge is co-created rather than collected from participants. With the end goal of informing interventions that could improve the lives of people with diabetes who experience homelessness, we sought to recruit a group of community members with lived experience. Participants were invited and asked to commit to attending regular group meetings for 7 months (barring extenuating circumstances).

**Results:** A group of 8 lived experience experts participated. The average attendance was greater than 80% over the 18 meetings. Group members developed close rapport with one another. We undertook two major research projects with the group. Concept mapping is a participatory priority setting methodology which enabled us to choose a research focus. Photovoice was then chosen by the group members to explore the topic of accessing healthy food while homeless. Group members have been active participants in knowledge translation, including: advocating for more nutritious food at their shelters; co-presenting to various stakeholders; and meeting with a politicians discuss the results of the study. They also reported being more effective self-advocates in their appointments with health care providers as a result of participating in the group.

**Conclusion:** While meaningfully engaging community members in research projects takes a considerable investment of time and money, the use of CBPR is important to be sure that researchers study topics of interest to the community. Community co-researchers are important stakeholders and are heavily engaged in all aspects, including knowledge translation.

**Author Names:** David Campbell, University of Calgary; Rachel Campbell, University of Calgary; Stephen Hwang, St. Michael's Hospital; Gillian Booth, St. Michael's Hospital; Kerry McBrien, University of Calgary; Dwayne Hunte, Clients with Diabetes Action Committee

## *Inequities in primary care attachment among people receiving opioid therapy*

Ms. Tonya Campbell, ICES

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Qualitative evidence has indicated that Ontarians who use opioids for managing chronic pain, or for opioid agonist therapy, may experience difficulties securing a primary care provider (PCP) and may seek care in an emergency department (ED) as a substitute. Among individuals with recent primary care provider loss, we compared rates of re-attachment to primary care and ED visits for people receiving opioid therapy relative to people with no recent opioid exposure.

**Approach:** In this population-based cohort study, we identified Ontarians whose enrolment with a PCP was terminated between January 2016 and December 2017, and classified individuals as opioid agonist therapy (OAT) recipients, chronic pain-related opioid therapy (COT) recipients, or people without recent opioid exposure. Our primary outcome was the rate of primary care re-attachment, defined as attachment to an enrolment model, community health centre, or fee-for-service physician. Our secondary outcome measured the rate of ED visits during the period without primary care attachment. Cox and Poisson models were used to compare outcomes between the groups exposed to opioids and the group unexposed.

**Results:** We identified 1,759 OAT recipients, 3,891 COT recipients, and 150,890 opioid unexposed individuals whose PCP enrolment was terminated. At 1-year follow-up, OAT recipients had a lower rate of primary care re-attachment (adjusted Hazard Ratio [aHR] 0.54; 95% CI 0.49-0.59), and COT recipients had a similar re-attachment rate (aHR 0.96; 95% CI 0.92-1.01), compared to opioid unexposed individuals. When considering enrolment models alone, both groups had a lower re-attachment rate compared to people without opioid exposure (OAT recipients: aHR 0.35; 95% CI 0.31-0.41, COT recipients: aHR 0.86; 95% CI 0.81-0.91). Relative to opioid unexposed individuals, the rate of ED visits was greater among OAT recipients (adjusted rate ratio [aRR] 1.23; 95% CI 1.16-1.30) and COT recipients (aRR 1.37; 95% CI 1.31-1.43), during the period without attachment.

**Conclusion:** Compared to opioid unexposed individuals, people who use opioids face inequities in primary care attachment, particularly to enrolment models. Furthermore, the higher rates of ED visits among these individuals may indicate unmet health needs. Barriers to accessing primary care among people using opioids must be addressed by clinicians and policymakers.

**Author Names:** Tonya Campbell, ICES; Tara Gomes, St. Michael's Hospital; Laura Robertson, Ontario Drug Policy Research Network; Diana Martins, St. Michael's Hospital; Michael Paterson, Institute for Clinical Evaluative Sciences (ICES); David Juurlink, Sunnybrook Health Sciences Centre; Richard Glazier, Institute for Clinical Evaluative Sciences; Muhammad Mamdani, Unity Health Toronto



## *The association between dental opioid prescription characteristics and the risk of long-term use and overdose*

Ms. Tonya Campbell, ICES

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**Category:** Oral Presentation

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Dental pain is a common indication for opioid initiation, with a recent study indicating that 22% of Ontarians who initiated opioid therapy between April 2015 and March 2016 were prescribed by a dentist. However, little is known regarding the risks of these medications when prescribed by dentists. Our objective was to examine the association between initial dental opioid prescription characteristics and the risks of long-term use and harm.

**Approach:** We conducted a population-based cohort study of Ontarians initiating opioids prescribed by a dentist between October 2014 and September 2016. The primary exposure was the average daily opioid dose dispensed at initiation, in morphine milligram equivalents (MME). Secondary exposures were the prescription duration (days supplied) and the formulation dispensed on initiation (immediate-release or long-acting). The primary outcome was continued opioid use at one year, and the secondary outcome was opioid toxicity within one year. Logistic regression was used to estimate the association between the initial prescription opioid characteristics and continued use, and opioid toxicity incidents were summarized using descriptive statistics.

**Results:** Among 384,079 individuals initiating opioids prescribed by dentists, 1,810 (0.5%) remained on therapy for at least one year, and 152 (0.40 per 1,000 person-years) experienced an opioid toxicity incident. Compared to a daily dose of  $\leq 20$ MME, an initial daily dose  $> 90$ MME was associated with a 67% increase in the odds of continued use (aOR 1.67; 95% CI 1.08 to 2.60). Relative to a duration of  $\leq 3$  days supplied, a duration of  $> 14$  days was associated with an almost threefold increase in the odds of continued use (aOR 2.87; 95% CI 1.86 to 4.41). In the secondary analysis, opioid toxicity rates increased with increasing daily dose initiated, and almost one-quarter of events (22.4%) occurred within the six weeks after initiation.

**Conclusion:** While persistent opioid use and toxicity occurred infrequently among dental patients newly receiving opioids, judicious opioid prescribing, including lower daily doses and shorter prescription durations following dental procedures may serve to reduce the risks of long-term use and opioid-related harms.

**Author Names:** Tonya Campbell, ICES; Diana Martins, St. Michael's Hospital; Mina Tadrous, Women's College Hospital; David Juurlink, Sunnybrook Health Sciences Centre; Michael Paterson, Institute for Clinical Evaluative Sciences (ICES); Muhammad Mamdani, Unity Health Toronto; David Mock, University of Toronto; Tara Gomes, St. Michael's Hospital

## *The use of anticoagulant medications at long-term care entry for residents with atrial fibrillation: a population-based cross-sectional analysis*

Mr. Michael Campitelli, ICES

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** While warfarin has been the mainstay for treatment of atrial fibrillation (AF), its use may be associated with high rates of adverse events in residents of long-term care (LTC) homes. The approval of direct-acting oral anticoagulants (DOACs) may have resulted in changes in prescribing patterns in LTC and resulting quality of care. The objective of this study was to describe time trends in the use of anticoagulants among individuals with AF entering LTC homes.

**Approach:** We used linked health administrative and clinical data to conduct a population-based cross-sectional study of Ontario LTC residents with a previous diagnosis of AF who newly entered LTC between April 2011 and March 2018. Residents were grouped into fiscal years based on their date of LTC entry and drug claims were used to identify prevalent anticoagulant treatment use by drug type upon admission. Log-binomial regression was used to quantify the percentage change in the proportion of new LTC residents receiving anticoagulant therapy between the 2011/12 and 2017/18 fiscal years.

**Results:** Among 39,995 newly admitted LTC residents with AF (average of 5,714 per year), there were 20,570 (51%) treated, and 19,425 (49%) not treated, with anticoagulant medications upon entry. The prevalence of receiving any anticoagulant treatment increased from 42% in 2011/12 to 58% in 2017/18, a percentage increase of 40% ( $p < 0.001$ ). The use of warfarin at LTC admission declined dramatically over the study period from 42% in 2011/12 to 14% in 2017/18 (percentage decrease = 65%,  $p < 0.001$ ). While there were no users of DOACs in 2011/12, prior to the medication being approved in Canada for AF patients, by 2017/18 approximately 44% of newly admitted LTC residents were receiving DOACs at entry. The most common DOAC was apixaban (45.2%), followed by rivaroxaban (32.7%) and dabigatran (22.0%).

**Conclusion:** The prevalence of anticoagulant use among residents newly entering LTC with AF significantly increased over our study period, with a large shift towards using DOACs. Many AF patients remained untreated, however. Our future work will examine the persistence, and related correlates, of anticoagulant use in the year following LTC admission.

**Author Names:** Michael Campitelli, ICES; Susan Bronskill, ICES; Laura MacLagan, ICES; Anjie Huang, Institute for Clinical Evaluative Sciences; David Hogan, University of Calgary; Kate Lapane, University of Massachusetts Medical School; Colleen Maxwell, University of Waterloo

*Health care service utilization in the five years prior to Amyotrophic Lateral Sclerosis diagnosis: an Ontario-wide analysis*  
Mr. Michael Campitelli, ICES

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Challenges diagnosing Amyotrophic Lateral Sclerosis (ALS), a rare, terminal neurodegenerative disease, can lead to increased health services use and unnecessary procedures prior to clinical confirmation. Sex differences in early ALS symptoms and reduced access to specialized neuromuscular services in rural areas, may also impact these patterns. The objective of this study was to examine differences in health services use among persons with ALS prior to diagnosis by sex and rural residence.

**Approach:** We used linked health administrative data to conduct a population-based, retrospective cohort study of persons newly dispensed Riluzole (ALS-specific drug therapy) in Ontario between April 1, 2002 and March 31, 2018. The index date was a confirmatory electromyography test in the two years prior to Riluzole dispensation. The main exposures were male (vs. female) sex and rural (vs. urban) residence. Differences in physician visits, hospital care, diagnostic testing/imaging, laboratory testing, and potentially inappropriate procedures between exposure groups in the five years prior to ALS confirmation were measured using Poisson regression.

**Results:** Among 1,071 persons with ALS with a confirmatory electromyography test in the past two years, 563 (52.6%) were males and 134 (12.5%) lived in rural communities. After adjustment for age, income quintile, and comorbidity, persons with ALS residing in rural communities had significantly lower visit rates to all physicians (Relative Rate [RR] 0.80, 95% Confidence Interval [95%CI] 0.78-0.82), including neurologists (RR 0.78, 95%CI 0.70-0.87), compared to those residing in urban settings. The adjusted rate of receiving at least one potentially inappropriate diagnostic or interventional procedure was significantly higher in males than females (RR 1.62, 95%CI 1.03-2.57) and among those residing in rural versus urban communities (RR 1.91, 95%CI 1.13-3.24).

**Conclusion:** Males and rural residents were more likely to undergo a potentially inappropriate procedure prior to ALS confirmation; rural residents also had less access to neurologists. Aggregating persons with ALS over many years with population-based data proved a valuable tool for examining trends in health services for a rare disease.

**Author Names:** Michael Campitelli, ICES; Laura MacLagan, ICES; Longdi Fu, ICES; Colleen Maxwell, University of Waterloo; Richard Swartz, Sunnybrook Health Sciences Centre ; Susan Bronskill, ICES; Lorne Zinman, Sunnybrook Health Sciences Centre; Agessandro Abrahao, Sunnybrook Health Sciences Centre

# *Depressive Symptoms, Desire for Help, and Access to Mental Health Professionals: Understanding The Mental Health Needs of Sexual and Gender Minority Men*

Dr. Kiffer Card, University of Victoria

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Sexual and Gender Minority Men (SGMM) experience stigma that puts them at risk for depression and poor health. Knowing which SGMM experience depression, what characteristics are associated with wanting access to care, and what factors help or prevent SGMM from accessing care can improve how front-line providers support SGMM in their care.

**Approach:** In this study, we looked at three related outcomes: (1) depressive symptoms, measured using a two-item screen (i.e., PHQ-2); (2) a question asking whether patients wanted help with depression; and (3) a question asking which individuals met with a mental health provider in the past year. Participants were recruited from LGBTQ2S+ pride parades if they were a sexual or gender minority man, aged 16 years or older.

**Results:** We found that among 2,010 SGMM, 38.3% had PHQ-2 scores  $\geq 2$  and were thus eligible for further screening for depression, 24.6% wanted help with depression, and 34.5% met with a mental health professional in the past year. Younger SGMM were more likely to have PHQ-2 scores  $\geq 2$ , want help, and have met with a provider. Other relevant social determinants were also significantly related to these outcomes, including gender, ethnicity, and social class. Importantly, having a primary care provider that knew about a participant's sexual orientation was associated with being more likely to have met with a mental health professional and being less likely to have PHQ-2 scores  $\geq 2$ . Experiences of trauma and substance use also impacted whether participants had depression, wanted care,

**Conclusion:** We conclude that patient-oriented practice and service design acknowledging SGMM's personal histories will likely support their care. Further, a lower screening threshold of  $\geq 2$  on the PHQ-2 captures more participants who want help with depression than the traditional cut-off of  $\geq 3$ .

**Author Names:** Kiffer Card, University of Victoria

## *Accessibility to healthcare: a rapid review of policies supporting health expenditures for children with disabilities.*

Dr. Roberta Cardoso, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** The Accessible Canada Act was proclaimed into force on July 11, 2019. The Act does not have specific mention of children with disabilities, and tackles only issues of federal jurisdiction. Little is known about policies that support accessibility to healthcare for these children such as policies supporting health expenditures that are federally regulated. The objective of this review is to identify policies supporting public expenditures relevant for children with disabilities and their families.

**Approach:** A Rapid Review on policies related to national and international public health expenditures relevant to children with disabilities and their families. A search of 3 electronic databases (MEDLINE, EMBASE and CINAHL) was conducted for publications in English, French, Spanish and Portuguese from 1999 until 2019. Additionally, search for grey (i.e., difficult to locate or unpublished) literature, consultation with experts in the field and scanning of reference lists of relevant studies were performed to identify relevant studies. Two reviewers independently screened articles and completed data abstraction.

**Results:** The search resulted in 7,137 reports. We will describe the policies and also the factors which influence the success or failure of these policies such as context (C), mechanism (M) and outcomes (O) when possible. All levels of screening and data abstraction will be completed by one reviewer and one verifier. Data will be synthesized with descriptive analyses and a narrative summary of the results will be presented as a policy brief.

**Conclusion:** Children with disabilities face systemic inequalities. This review will inform knowledge users (e.g. children with disabilities and families advocacy groups, disability persons organizations, clinicians, policy-makers) regarding examples of policies and systems that could be implemented to advance access to healthcare, services, and population health in general.

**Author Names:** Roberta Cardoso, McGill University; Keiko Shikako-Thomas, McGill University; Miriam Gonzalez, McGill University; Paul Yejong Yoo, McGill University; Luca Martial, McGill University

## *Biosimilars in Canada: Challenges and opportunities*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Biologics are an important segment of the Canadian pharmaceutical market with annual national sales of \$7.7 billion, or nearly one third of pharmaceutical sales in 2018. Rising numbers of these high-cost medicines have put immense pressure on healthcare budgets and payers in Canada. In recent years, biosimilar medicines have entered the market, expanding the treatment options available to Canadian patients while offering lower treatment costs and an opportunity for significant cost savings.

**Approach:** Capturing data from various sources, including the IQVIA MIDAS® Database, the US Food and Drug Administration (FDA), the European Medicines Agency (EMA), and Health Canada, this presentation compares the overall emerging Canadian market for biosimilars with our international counterparts. The analysis delves more deeply into international comparisons of biosimilar availability, uptake, and pricing, and assesses the potential savings from biosimilars for a select number of recent and upcoming launches.

**Results:** While the international experience with biosimilars has many success stories – marked by early biosimilar approvals and market entry, and sizable price discounts and uptake – the market dynamics in Canada have been less encouraging. The results of this analysis show that Canadian market availability lags well behind Europe, with biosimilars approved and sold in Canada for only 5 of the 15 biologic medicines with international biosimilars available as Q4-2018. Compared to other countries in the OECD, biosimilar uptake in Canada as a share of the biologic units sold is also relatively modest. The study also finds that Canadian prices for biosimilars are often above international norms, despite offering comparable discounts at introduction, likely due to higher prices of the originator biologics prevailing in Canada.

**Conclusion:** With a focus on the challenges of promoting the use of biosimilars in the Canadian market, this presentation analyzes the magnitude of the unrealized savings in Canada and the potential savings that could be realized if Canada were to align biosimilar policies with those implemented internationally.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Jared Berger, Patented Medicine Prices Review Board; Jeffrey Menzies, Patented Medicine Prices Review Board; Patrick McConnell, Patented Medicine Prices Review Board

## *When less means more: Insight into the spending on expensive drugs for rare diseases*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** An increasing number of drugs for rare diseases have emerged in recent years, bringing hope to patients suffering from life-threatening or debilitating conditions. However, most come with price tags that patients cannot afford and payers struggle to fund. With few or no therapeutic comparators and uniformly high prices internationally, the recent trends in expensive drugs for rare diseases (EDRDs) pose important challenges around affordability, access, and long-term sustainability to healthcare systems.

**Approach:** Using sales data from IQVIA's MIDAS® Database, this analysis provides insight into the EDRD market, with information on availability, pricing, sales, uptake, and market shares in Canada and across the OECD. For the purposes of this analysis, EDRDs are defined as orphan-designated medicines with treatment costs exceeding \$100,000 annually for non-oncology medicines or \$7,500 per 28-day course for oncology. This study analyzes 79 EDRDs, split almost equally into oncology and non-oncology medicines. The results touch on the relationship between treatment cost and the size of the treatment population, assessing these aspects against past trends.

**Results:** The analysis finds that the treatment costs for most non-oncology EDRDs exceeds a staggering \$300,000 annually, while most EDRDs for cancer exceed \$11,000 per 28-day course. Preliminary data suggests that despite the small patient populations they treat, the revenue generating potential of EDRDs is comparable to that of high-volume medicines, owing to their remarkably high prices. With sustained annual rates of increase over 30% and a growing representation among new launches, this fast-growing market bears a constant inflow of specialty products and is expected to be a significant driver of pharmaceutical spending.

**Conclusion:** Given the high price and increased availability of EDRDs, and their importance to patients facing often life-threatening diseases, this therapeutic area requires innovative approaches to policy and greater international collaboration and alignment. This analysis highlights the major factors driving EDRD spending and their mounting importance in Canadian and OECD markets.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Jared Berger, Patented Medicine Prices Review Board; Jeffrey Menzies, Patented Medicine Prices Review Board

## *A System-Wide Quality Assessment Tool to Assess National Priorities for Improvement*

Dr. Ben Chan, Insitute for Health Care Policy, Management & Evaluation, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Managing quality is often challenging for governments, because policymakers are far-removed from front-line healthcare delivery. Yet, evidence now exists that governments can nurture high-performing health systems by developing clear strategies, setting standards, creating capacity, building measurement systems, ensuring accountability and enacting certain policies. This paper describes a new assessment tool developed by the World Bank Group, piloted in Colombia, aimed at identifying strengths and weaknesses in these domains and priorities for future investment.

**Approach:** Based on the literature on high-performing health systems, we designed an assessment tool with eight domains, 49 criteria and 171 standards. Each criterion was scored from 1 to 4 based on a rubric describing minimal, partial, major or full implementation. A mixed methods approach drew on structured interviews from government, civil society organizations, clinical leaders, managers and public representatives; review of documents such as strategic plans, quality indicators, guidelines, standards, and policies; site visits to hospitals and primary care clinics in high- and low-income regions, rural, urban, public and private settings; and a survey of insurance companies.

**Results:** Domain results are as follows: strategy 3.0; goals exist, but priorities are diffuse and regional coordination is limited. Quality standards, 3.5; practice guidelines and facility standards exist but capacity planning is weak. Quality measurement: 2.6; there are indicators and public reporting but limited analytical capacity and poor feedback of data to providers. Quality improvement capacity, 2.5; most facilities have quality committees and staff, but apply quality methods inconsistently. Inputs, 2.9: hospital capacity and staffing are low compared to OECD countries, and regional disparities persist. Accountability 2.1; there are inspection systems and contracting between insurers and providers, but consequences for poor quality are limited. Policies 3.0; policies exist for patient rights; provider licensing could be strengthened. Results 2.9; many indicators are low compared to OECD countries.

**Conclusion:** This tool identifies improvement opportunities across all domains, especially quality improvement capacity and accountability. Results have informed a new World Bank lending project. Difficulties encountered included incomplete sampling in conflict-affected regions; verifying self-reported management capacity; and describing complexity of accountability mechanisms. Lessons learned are being applied to the next version.

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## *Too Timid? An Analysis of Planning for Health Quality by Canadian Governments*

Dr. Ben Chan, Insitute for Health Care Policy, Management & Evaluation, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Governments around the world are paying attention to quality, given growing evidence of lives lost due to poorly delivered care. The WHO has established guidelines for creation of national strategies for quality for all countries, which include the need to set clear priorities, indicators and targets for improvement. This paper examines planning activities in Canada to see if governments at federal, provincial and territorial levels are meeting basic criteria for quality planning.

**Approach:** Within each of Canada's federal/provincial/territorial jurisdictions, we searched for strategic, operational and business plans and annual reports from governments or designated planning agencies. This includes Ministries of Health and health authorities which manage services for the entire jurisdiction. We evaluated the ensemble of these documents according to the following criteria: presence of indicators for each priority area, baseline data, numeric targets with time frame, and progress reports on whether targets were met. To describe partial implementation of these criteria, we weighted the score as follows: 1 full implementation, .75 most, .5 partial, .25 few, 0 none.

**Results:** Among 13 of 14 federal/provincial/territorial jurisdictions, the average implementation scores were as follows: presence of indicators, 0.77; presence of baseline, 0.67; presence of targets, 0.42; presence of progress report, 0.38. A variety of patterns were observed, including: setting indicators for completion of tasks rather than improvement in an actual quality indicator; committing to "increase" quality without specifying a numeric target; and producing progress reports which reported on indicators different from those in the strategic plan. The four provinces with province-wide health authorities all had specific targets with at least some degree of reporting on progress.

**Conclusion:** Most Canadian jurisdictions do not commit to improvement targets. This raises questions about whether health systems have vision and motivation needed for success. The cause of this timidity is beyond this study's scope, but one hypothesis is that governments fear criticism if they set and then fail to meet targets.

**Author Names:** Ben Chan, Insitute for Health Care Policy, Management & Evaluation, University of Toronto; Susmitha Rallabandi, --; Dan Florizone, Johnson Shoyama School of Public Policy

*Despite increasing antimalarial efforts in sub-Saharan Africa, health inequalities are increasing as malaria morbidity/mortality inequality-gap is widening: Pragmatic challenge of global health equity towards the vulnerable*  
Mr. Dine Charles Biradzem, University of Montreal (UdeM)

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Background: Malaria statistics from sub-Saharan Africa (SSA) still project increasing/widening inequality-gap in its morbidity/mortality rates as citizens become more vulnerable, despite heavy antimalarial input in that part of the world.

Objective: Given that effective antimalarial intervention is a variable dependent on simultaneous strategic targeting of malaria disease and its endemicity heterogeneity, we are evaluating if various antimalarial researches in SSA really target the heterogenous malaria endemicity as to minimize its mortality and facilitate its elimination.

**Approach:** Method: We established malaria infection rates/000 and malaria mortality changes between 2000–2016 for n=38 countries in SSA. The infection rates/000 were then mapped with n=1061 funded antimalarial researches undertaken in these countries within the very period. The first three countries with the highest malaria infection rates/000 and the first three with the highest funded antimalarial research activities were sampled. The relationship between malaria infection rates/000 and antimalarial research activities was determined, and the Efficiency Ratios calculated. The results were further substantiated with all 38 countries vis-à-vis their malaria mortality changes between 2000–2016.

**Results:** Results: Malaria in SSA is predominantly the type falciparum, with heterogenous morbidity/mortality rates resulting from its geographical heterogenous parasitic prevalence. Despite decades of antimalarial efforts in SSA, many countries are still getting more and more endemic with increasing malaria morbidity/mortality. This situation is exacerbated by the allocation pattern of antimalarial researches in SSA as these researches inversely correlate with the heterogeneity of malaria endemicity. Ex. Between 2000–2016, Tanzania had only 113.9/000 infection rate, yet n=170 funded antimalarial researches and thus recorded ≈19,335 decrease in malaria mortality. Contrarily, Guinea had 367.8/000 infection rate, hosted only n=4 antimalarial researches, then recorded ≈11,322 increase in malaria mortality. Thus, by 2016, many countries of the likes of Guinea were worst-off than in 2000. (Graphs will show better).

**Conclusion:** Conclusion: If antimalarial researches in SSA are not strategically modelled according to malaria endemicity so that they provide representative data, inequality-gap will continue widening as there will always be malaria drug resistance in endemic countries. Correspondingly, their malaria morbidity/mortality rates will be increasing and the inequality-gap widening.

**Author Names:** Dine Charles Biradzem, University of Montreal (UdeM)

## *Cardiac Care Quality Indicators: Variations Across Cardiac Care Centres in Canada*

Ms. Linda Choy, Canadian Institute for Health Information

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** The Cardiac Care Quality Indicators report began in 2008 as a pilot project and expanded nationally in 2013 in partnership with the Canadian Cardiovascular Society. The project includes 6 quality indicators developed in consultation with cardiac care experts/researchers across Canada. The indicators cover in-hospital mortality rates and readmission rates following selected cardiac procedures. The objective of this project is to report on these 6 indicators at the level of individual hospitals and across provinces.

**Approach:** The indicators are calculated using CIHI's administrative databases, Discharge Abstract Database (DAD) and National Ambulatory Care Reporting System (NACRS) as well as Quebec data from Maintenance et exploitation des données pour l'étude de la clientèle hospitalière (MEDÉCHO). Records from the various databases are linked to follow patients across a hospitalization episode of care and to identify outcomes (mortality and readmission) following the different cardiac interventions. A logistic regression model is fitted with independent variables from the episode of care to calculate risk-adjusted rates by individual cardiac centres, provinces and territories.

**Results:** Since the first public report release in October 2017, overall national rates for these indicators have been relatively stable. The most recent national rates for the mortality following cardiac surgery indicators range from 1.2% to 2.9%. National rates for readmission following cardiac surgery indicators range from 6.9% to 9.5%. We observed an increase in the Canada rate for 30-Day In-Hospital Mortality After Isolated Coronary Artery Bypass Graft (CABG). For the most recent year of data available, provincial rates for this indicator range from 0.9% to 3%, while risk-adjusted rates across cardiac centres range from 0.7% to 3.6%.

**Conclusion:** This report provides cardiac care centres with comparative centre-level information on common cardiac procedures and highlights variations across centres. The results are a starting point for discussion and help identify potential areas for improvement.

**Author Names:** Linda Choy, Canadian Institute for Health Information; Mélanie Josée Davidson, ; Joseph Amuah, Canadian Institute for Health Information; James Abel, St. Paul's Hospital; Ansar Hassan, Saint John Regional Hospital

## *No Rules for Rural: A Counter-Argument to Scale-up and Spread*

Ms. Alison Coates, University of Ottawa

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**Category:** Oral Presentation

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Rural areas are disadvantaged by the current emphasis in health services research on scale-up and spread (SUS) of health services innovations. Underpinning the concept of SUS is the idea that the core of a successful innovation merits implementation in other similar settings, with peripheral adjustment for change in context. This paper discusses aspects of rural health systems which are not well served by current SUS models and presents an alternative view of successful rural innovation.

**Approach:** Through illustrative cases and a review of rural health literature, this debate paper explores why SUS of innovations may falter or fail in rural areas and reveals non-traditional innovation pathways. We explore rural heterogeneity, critique the rural evidence base, and challenge the urbanormativity that pervades the current paradigms in health services innovation. We propose instead a “no rules for rural” approach to innovation that embraces a place-based, strengths-based view of rural health.

**Results:** Three key themes emerged from our exploration of rural health systems innovation. (1) ‘Rural’ is a construct, not a singular context. Clarity is lacking in the definition, characteristics, and implications of rurality. An alternative place-based view of rural health systems would encourage fit-for-place solutions and innovations. (2) The evidence base underpinning “scalable” innovations may be insufficient, inappropriate and/or inaccessible to rural health systems. In the absence of evidence, rural communities may innovate radically - from the ground-up - to design fit-for-purpose solutions. (3) Urbanormativity contributes to the problematization of rural health where assumed resources or cultural conditions associated with successful SUS may be lacking. A strengths-based approach may emancipate rural health systems from urbanormative constraints and instead encourage bold, creative, and resource-efficient innovation.

**Conclusion:** Rather than attempt to scale up and spread urban-derived innovations, rural health systems improvement should emerge from a strengths-based understanding of place. When rural systems are unencumbered by urban SUS paradigms, the resulting innovations are fit-for-place, fit-for-purpose, and reflect the creativity and resourcefulness of rural communities.

**Author Names:** Alison Coates, University of Ottawa; Agnes Grudniewicz, Telfer School of Management, University of Ottawa; Andrew Scarffe, Telfer School of Management at the University of Ottawa

## *Enablers and barriers to implementing collaborative care models that are optimally designed to meet patient needs*

Mr. Brian Condran, Dalhousie University School of Nursing

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The needs of an aging population living with chronic disease and challenging social conditions have motivated the introduction of collaborative care models in primary care. The challenges and opportunities of these models have not been formally documented. As part of a provincially-commissioned rapid research evaluation, we conducted case studies to learn first-hand how collaboration has been experienced in Nova Scotia and what contextual factors enable or hinder collaboration that improves patient care.

**Approach:** Over three months we conducted a comparative case study of three collaborative care models: collaborative interprofessional teams, collaborative care group physician models and collaborative care solo physician models. Practices (n=12) were selected purposely and using snowball sampling. Data were collected using focus groups (n=9) and individual interviews (n=61). Participants included patients, team members, decision-makers, and clinical leads in primary care and policy settings across Nova Scotia. Interviews were audio-recorded and transcribed. A coding team analyzed transcripts using a modified content analysis approach and frequent coding team discussions. Coding was informed by the Consolidated Framework for Implementation

**Results:** Participants indicated collaborative care occurs internally within primary care practices and externally with community partners and improves accessibility and responsiveness to needs of patients and families. They advised success measures should move beyond panel size and account for complexity of patient needs and health determinants. Themes were: 1. Leadership and decision making at local and community levels enables innovations to be contextualized for rural and urban practice; 2. Poverty is an overlooked barrier to health care access for patients; 3. Access to mental health services is in a crisis; 4. Characteristics of providers and staff that enable collaborative care; 5. Practice-based structures and processes that enable collaborative care; 6. Vital roles of health service managers, co-leads and administrators; 7. Systems level barriers to

**Conclusion:** Recommendations for enhancing collaborative primary care include enhancing capacity for local leadership and decision-making at the team and health system levels and adding mental health providers to collaborative care models. Effective performance metrics for collaborative care are needed along with professional and public education about collaborative care and provider roles.

**Author Names:** Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority; Meaghan Sim, Nova Scotia Health Authority; Dalhousie University; Debbie Sheppard-LeMoine, StFX; Ruth Martin-Misener, Dalhousie University; Amy Grant, Maritime SPOR Support Unit; Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology; Frederick Burge, Dalhousie Family Medicine; Tanya Packer, School of Health Administration, Dalhousie University; Daniela Meir, NSHA / Research Methods Unit; Daniel Marsh, Nova Scotia Health Authority; Gail Tomblin Murphy, Nova Scotia Health Authority; Tom Marrie, Nova Scotia Department of Health and Wellness; Julia Guk, School of Health Administration Dalhousie University; Brian Condran, Dalhousie University School of Nursing; Jennifer Murdoch, NSHA; Adele Mansour, School of Occupational Therapy; Maryam Akbari, Nova Scotia Health Authority

## *Mapping the journey of First Nation patients diagnosed with End Stage Kidney Disease with little prior knowledge of their declining kidney function*

Ms. Tannye Cook, First Nations Health & Social Secretariat of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Indigenous Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The Manitoba Renal Program reports that from 08-2016 to 07-2017, 254 patients initiated dialysis. Of these, 88 initiated within 3 months of their first nephrology referral (termed uninformed ESKD patients, or UEP). Of these 88 patients, 34 were First Nation individuals (39%, FN people constitute 15% of the Manitoba population). This study mapped the journey of patients diagnosed with ESKD with little prior knowledge of their declining kidney function.

**Approach:** We developed a cohort of UEP using data from the Manitoba Renal Program. We included FN individuals who initiated dialysis within 3 mo. of their 1st nephrology appointment, from 1984-2019. We linked this cohort to administrative claims data for MB FN communities, housed at the Manitoba Centre for Health Policy, using generalized estimating equation logistic regression. We controlled for age, sex, and socioeconomic status, to describe the relationship between hospitalization rates for ACSC and models of PHC in First Nation communities.

**Results:** Analysis is in progress, to be completed by April 2020. Preliminary results suggest that compromised access to responsive primary healthcare is the key determinant of progression from CKD to ESKD. UEP appear to come primarily from semi-isolated FN communities, and from communities where local access to primary healthcare is lacking. FN men appear at greater risk than women. Preliminary analyses indicate that the age of dialysis initiation has dropped over time.

**Conclusion:** Preliminary analyses indicate the need to extend local access to primary healthcare to all FN communities, and to prioritize youth and men in the development of FN-centric programming.

**Author Names:** Tannye Cook, First Nations Health & Social Secretariat of Manitoba; Josée Gabrielle Lavoie, Ongomiizwin Research

## *Improving immunization knowledge, access and uptake for Punjabi newcomer women in British Columbia*

Dr. Elizabeth Cooper, University of Regina

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Canada is encouraging immigration, with anticipated numbers of around 350 000 newcomers in 2021 and anticipated population growth attributable to immigration reaching 1% annually within the next decade. With migration comes the need to ensure equity in health and health services. Newcomer populations are often particularly vulnerable to infectious diseases, making immunization access and uptake for these populations important for both their health and wellbeing, and that of all Canadians.

**Approach:** This case study is part of a pan-Canadian study to improve the health and wellbeing of newcomer women and children through immunization, and to explore the effectiveness and relevance of immunization information materials created by various Canadian agencies. We conducted 14 focus groups (n=35) with Punjabi women immigrants in the BC Fraser Valley. Participants were women who were pregnant and/or had children  $\leq 17$  years old, had relocated to Canada under the permanent resident program within  $<5$  years. Demographic information was collected and focus groups were translated, transcribed and analyzed for emerging themes.

**Results:** Punjabi newcomer women have diverse levels of knowledge about both general disease prevention strategies, as well as the role that immunizations play in preventing communicable diseases. Several women were unclear of the difference between immunizations and other types of injections. While many women and/or their children had received healthcare in Canada, they had not received specific information about vaccinations. All were eager to comply with Canadian immunization recommendations (indicating vaccine hesitancy was not an issue), but were generally confused about access and schedules. Women found the health information material provided to be generally useful, although none were previously aware of this information. They had specific recommendations on improving the clarity of language, images, scientific health information, and practical advice was provided.

**Conclusion:** Understanding the ways that newcomer women understand immunizations, receive and interpret information, and make decisions about immunization and health for themselves and their families is critical to improving knowledge, access and uptake of immunizations for this potentially vulnerable (and often overlooked) population in Canada.

**Author Names:** Elizabeth Cooper, University of Regina; Cindy Jardine, University of the Fraser Valley; Marinel Kniseley, University of the Fraser Valley

*Walk the talk towards value-based integrated performance management in healthcare: the story of how health system managers appropriate control rooms through a national mandate in Quebec*

Ms. Élisabeth Côté-Boileau, University of Sherbrooke

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In 2016, the Quebec's Ministry of Health and Social Services mandated a province-wide implementation of control rooms in all healthcare organizations, to support a new national orientation towards value-based integrated performance management. To this day, little is known about how healthcare managers have appropriated control rooms in both their design and use, and what the resulting effects are. This doctoral study aims to understand how healthcare managers appropriate mandated management tools through large-scale transformative experiments.

**Approach:** We conducted an organizational ethnographic multi-sites case study design in two Integrated health and social services centers in Quebec, which embed three governance levels: strategic, tactical and operational. While this study focusses on the tactical and operational levels, we pay attention to the interactions between all three governance levels. Data were collected (September 2018 to September 2019) through documents review (N=143), focussed non-participatory observations (N=163 hours) and semi-structured individual interviews with middle (tactical and clinical) managers (N=34). Data were analyzed using the narrative process approach, and guided by an aggregated theoretical framework building on sociomateriality, institutional theory and work-studies.

**Results:** Preliminary results show that the appropriating of control rooms by middle managers unfolded in three phases. In Phase I (2015-2018), managerial efforts were focussed on the core concept (managerial philosophy) of control rooms, to disrupt the current conceptualization of performance that is cost-effectiveness-oriented, and push the managerial agenda towards value-based-oriented performance management. In Phase II (2018-2019), the focus shifted to the governance of control rooms, as managers realized that the concept of value-based integrated performance management was operationally inconsistent with the current fragmented accountability systems. In Phase III (2019-today), managers focussed on redesigning the technical substrate of control rooms according to user-experience process indicators rather than cost-effectiveness metrics; to start creating both a structural and operational alignment between clinical and managerial work towards value-based healthcare.

**Conclusion:** This study brings new knowledge on how health system managers experience, react and build capacity while appropriating new management technologies towards value-based integrated healthcare. It also provides actionable answers towards the critical challenge of generating, yet sustaining, coherence between value, accountability and technological agency within contemporary public health systems.

**Author Names:** Élisabeth Côté-Boileau, University of Sherbrooke; Mylaine Breton, Université de Sherbrooke; Jean-Louis Denis, University of Montreal



## *Examining the distribution and accessibility of primary care and specialist services for community dwelling persons with dementia in Ontario, Canada*

Ms. Shawna Cronin, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Primary care (PC) is well positioned to care for the increasing prevalence of community-dwelling people living with dementia (PLWD), however, there is variation in the number of PC physicians and types of practices across Ontario. In addition, specialists, who also contribute to dementia management, are more frequently located in large urban centres. The objective is to examine the geographic distribution and spatial accessibility of primary care and specialist physicians for community dwelling PLWD in Ontario.

**Approach:** This cross-sectional study used health administrative databases held at ICES. A population of community-dwelling PLWD was identified using a validated algorithm; these individuals were then linked to their assigned PC physicians and practices. PC and specialist physicians who were practicing in Ontario during the observation window were also identified. We used geographic information systems (GIS) to create thematic and choropleth maps to examine the distribution of family physicians, specialists, and PLWD by census division. Ongoing analyses will involve deriving the Euclidean and network distance between PLWD and their assigned PC physicians. This measure of spatial access will be explored descriptively.

**Results:** A total of 74,819 PLWD during fiscal years 2016 and 2017 were included while 14,873 PC physicians (9,787 comprehensive PC), and 3,002 neurologists, psychiatrists, and geriatricians were identified. Thematic maps demonstrated lower density of PLWD outside of urban centres, however, PLWD were also found to comprise a higher proportion of the PC population in these areas. These same areas were found to have higher ratios of PLWD to primary care physicians. Examining the types of primary care practices, a greater proportion of physicians practicing in interdisciplinary teams was noted in some rural areas, and in areas surrounding dense urban centres.

**Conclusion:** This study confirms what is known about the distribution of PC and specialist physicians across Ontario, but does emphasize the mismatch between availability and need for health services for the dementia population, which may be relevant for health resource planning. Further investigations to explore the associated impacts are underway.

**Author Names:** Shawna Cronin, University of Toronto; Susan Jaglal, University of Toronto; Sara Guilcher, University of Toronto; Richard Glazier, Institute for Clinical Evaluative Sciences; Geoffrey Anderson, Institute of Health Policy, Management and Evaluation of University of Toronto

## *Canadian Nurses Use of Digital Health Technologies in Practice - 2020 results*

Prof. Leanne Currie, University of British Columbia

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Nurses are the largest group of healthcare providers in Canada and have thus been the largest end-users of digital health technologies. In an ongoing partnership between the Canadian Nursing Informatics Association, the Canadian Nurses Association and Canada Health Infoway we are conducting the third Canadian national survey examining "Nurses' use of Digital Health Technologies in Practice. In this talk we will present key findings related to nurses' use and perceptions of digital health tools.

**Approach:** A nation-wide survey, sponsored by Canada Health Infoway, is being conducted between January and March 2020. Previous surveys (in 2014 & 2017) had 1600 and 2000 responses with more than half being from nurses who provide clinical care. In the 2020 survey we are adding questions about artificial intelligence, nurses' interactions with patients using technologies, Nurse Practitioners technology use in their work including ePrescribing, and continuing to look at nurse satisfaction and patient safety outcomes related to use of digital health technologies. The web-based survey has 50 descriptive questions. A modified Dillman approach will be used.

**Results:** Key findings from 2014 and 2017 include most nurses (56% and 55%) were using Hybrid Systems (paper and electronic). Nurses who were using only digital health tools for their work indicated that quality of patient care was better or much better (46% in 2014, and 56% in 2017) than before using digital health tools. In 2017 only 42% of nurses had access to the patients' Provincial/Territorial record which impacted continuity of care. And in 2017 57% of nurses required multiple logins to use the digital health technologies in their practice. Most nurses were 'moderately satisfied' with the systems they use (40% in 2014 and 44% in 2017). The proposed presentation will present longitudinal data for these and other questions.

**Conclusion:** This national survey is the only one of its kind internationally. The World Health Organization has declared 2020 "The year of the Nurse and Midwife" in recognition of the 200th anniversary of Florence Nightingale's birth. This survey will demonstrate how nursing is moving forward in the 21st century.

**Author Names:** Leanne Currie, University of British Columbia; Josette Rousell, Canadian Nurses Association; Eric Maillet, University of Sherbrooke

## *Nursing Potential - Optimizing Nursing and Primary Healthcare in Nova Scotia*

Dr. Paul Curry, Nova Scotia Nurses' Union

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Access to primary healthcare is a leading concern in Nova Scotia, with weekly news stories on the loss of physicians, the difficulty recruiting to rural areas, and the growth in the provider waitlist. Public discussion has centred on the role of physicians, with limited discussion on how to effectively optimize nurses in primary healthcare roles. The Nova Scotia Nurses' Union decided to investigate the role of nurses in our current primary healthcare system.

**Approach:** Using a mixed methods approach, we undertook an environmental scan of primary healthcare and the role of nursing in it, both from the perspective of academic and grey literature. We conducted 14 key informant interviews with stakeholders in the province, including senior executive health care employers, government officials, academics, regulators, and union members. We conducted focus groups and surveys (N=586) with four sets of nurses, each representing an important touch point between nursing and primary healthcare provision: nurse practitioners (all settings), nurses working in primary healthcare, home care nurses and emergency department nurses.

**Results:** The study results have led to a series of recommendations, including enhancing the role of registered nurses and nurse practitioners in emergency departments, employing nurse practitioners to oversee orphaned home care clients, opening nurse-led clinics, implementing registered nurse prescribing, educating licensed practical nurses for primary healthcare roles, improving nurse-led chronic disease management, and improving system integration and the use of technology.

Government partners have indicated a willingness to work collaboratively on recommendations. The impact of this study will be determined as we this work progresses. If the proposals are implemented, we believe that licensed practical nurses, registered nurses and nurse practitioners will experience growth in scope and effectiveness, leading to improved health outcomes.

**Conclusion:** The evidence collected makes the case that nurses are able and willing to play a larger role in primary healthcare delivery, to the benefit of patients and the health system. Nurses have also identified significant gaps and have proposed solutions for system improvement.

**Author Names:** Paul Curry, Nova Scotia Nurses' Union; Janet Hazelton, Nova Scotia Nurses' Union

## *Directly-funded home care policy: A comparison of Alberta, Quebec and Newfoundland and Labrador*

Ms. Lisette Dansereau, University of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Directly-funded (DF) home care provides clients or a responsible other with cash or a budget to arrange their own home-based services. Rooted in the values of choice and control, DF traditionally serves a small proportion of home care users. An aging population and social shifts valuing person-centred care are driving policy disturbances, and DF is increasingly growing to serve older adults and their carers. This article compares DF policies in three Canadian provinces.

**Approach:** Data was collected through a national environmental scan of all DF programs in Canada using questionnaires and semi-structured key informant interviews with program administrators in each province. Based on unique design features identified in the national study, we compare policies in Alberta, Quebec, and Newfoundland and Labrador. Alberta takes on the issue of third party service provision, Quebec addresses labour management, and the Newfoundland program has grown to include a broad uptake of DF. Our analytical framework assesses eligibility, organization of service delivery and financial transfers, and mechanisms of oversight for labour, care quality, and finances.

**Results:** Through honing in on different policy design features, we find that each response has had varying success. Alberta is only beginning to recognize the importance of service delivery and care quality oversight, and is grappling with contract issues. Quebec keeps track of the DF workforce and mitigates administrative burden among users, while management of the workforce remains somewhat hands-off and the oversight of care quality is rudimentary. Finally, DF in Newfoundland and Labrador has expanded to serve almost 40% of all home care clients and includes some labour force oversight mechanisms, but the program appears to be experiencing 'growing pains' and continues to be challenged by the problem of equitable service provision in rural contexts.

**Conclusion:** Quebec is a national leader in addressing administrative burden and worker oversight, but all provinces need improved mechanisms for assessing care quality. The issues of private agencies, rural access, and wider uptake continue to require further research. Taken together, our findings can be used to inform DF policy across Canada.

**Author Names:** Lisette Dansereau, University of Manitoba; Kevin Balkaran, University of Manitoba; Christine Kelly, University of Manitoba

*Using additive and relative hazards to quantify colorectal survival inequalities for patients with a severe psychiatric illness: comparing Aalen and Cox-Proportional Hazards regression models*

Ms. Laura Davis, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Cancer

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Despite recommendations, most studies examining health inequalities fail to report both absolute and relative summary measures. Differing methods can generate diverging evidence resulting in different conclusions and potentially increasing disparities among already vulnerable populations. We use a real-world example examining colorectal cancer (CRC) survival for patients with and without severe psychiatric illness (SPI) to demonstrate the use and importance of both relative and absolute effects.

**Approach:** We conducted a retrospective cohort study of CRC patients diagnosed between 01/04/2007 and 31/12/2012, using linked administrative databases. SPI was defined as diagnoses of major depression, bipolar disorder, schizophrenia, and other psychotic illnesses six months to five years preceding cancer diagnosis and categorized as inpatient, outpatient or none. The association between SPI history and the risk of death from any cause was examined using Cox Proportional Hazards regression to obtain a relative measure of hazard ratio of death and Aalen's semi-parametric additive hazards regression to obtain absolute differences. Both models controlled for age, sex, primary tumour location, and rurality.

**Results:** The final cohort included 24,507 CRC patients, 482 patients (2.0%) had an outpatient SPI history and 258 patients (1.0%) had an inpatient SPI history. 58.1% of the group with an inpatient SPI history died (n=150), 47.1% of the group with an outpatient SPI history died (n=227). Patients with an outpatient SPI history had a 40% (HR 1.40, 95% CI: 1.22-1.59) increased risk of death and patients with an inpatient SPI history had a 91% increased risk of death (HR 1.91, 95% CI: 1.63-2.25), relative to no history of a mental illness. An outpatient SPI history was associated with an additional 33 deaths per 1000 person years, and an inpatient SPI was associated with an additional 82 deaths per 1000 person years after controlling for confounders.

**Conclusion:** We demonstrated that reporting of both relative and absolute effects is possible and calculating risk difference is relatively simple using Aalen models. We encourage future studies examining inequalities with time-to-event data to use this method and report both relative and absolute effect measures.

**Author Names:** Laura Davis, McGill University; Alyson Mahar, Manitoba Centre for Health Policy; Paul Kurdyak, CAMH; Timothy Hanna, Queen's University; Natalie Coburn, University of Toronto, Department of Surgery; Patti Groome, Institute for Clinical Evaluative Sciences

**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** When individual-level routinely collected health and demographic data cannot be pooled, international epidemiology studies have used distributed networks and meta-analysis to obtain overall estimates from multi-jurisdictional data. We aimed to validate this methodology using various multivariable regression models and under varying conditions (heterogeneity, sample size, model type, and event rate) using Canadian population-based health administrative data.

**Approach:** We used Ontario health administrative data to analyze trends in pediatric inflammatory bowel disease health services use in each Local Health Integration Network (LHIN) to simulate multiple jurisdictions. Effect estimates were obtained from Cox proportional hazards, logistic, and negative binomial regression models. LHIN estimates were then meta-analyzed using fixed and random effects models to compute provincial estimates. Beta coefficients from the distributed network and meta-analysis were compared to those from individual-level analyses using the z statistic at 5% significance. The summary effect estimates and 95% confidence intervals (CI) were visually assessed. I<sup>2</sup> and Cochran's Q were used to evaluate heterogeneity.

**Results:** The beta coefficients from the distributed network and meta-analysis were not different than the beta coefficients generated using individual-level data ( $p > 0.05$  in all cases). Summary effect estimates and 95% CIs were also comparable to those from individual-level data. Fixed and random effects models performed equally well across all conditions used in our study, though random effects models resulted in wider confidence intervals in the presence of considerable heterogeneity ( $I^2 > 75\%$ ,  $p < 0.10$ ).

**Conclusion:** Distributed network analysis, with meta-analysis combining aggregate data, is a useful method of estimating individual-level effect estimates in observational studies where individual-level data cannot be shared. This study has important implications for multi-jurisdictional epidemiology and health services research, particularly in Canada where individual-level data cannot be shared across provinces.

**Author Names:** Aman Dheri, University of Ottawa; Ellen Kuenzig, CHEO Research Institute; David Mack, Children's Hospital of Eastern Ontario; Gilaad Kaplan, University of Calgary; Eric Benchimol, ; Sanjay Murthy, Department of Medicine, University of Ottawa

## *Decreased hospitalizations and surgeries in children with inflammatory bowel disease: a population-based cohort study*

Ms. Aman Dheri, University of Ottawa

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Health services use in inflammatory bowel disease (IBD) patients costs the Canadian healthcare system \$1.3 billion annually. Recent changes to IBD care in children may have altered health services use trends. Characterizing these trends would aid policy makers in planning for the healthcare needs of these children. We quantified time trends in IBD health services use in children and all-cause health services use in children with and without IBD using a population-based cohort.

**Approach:** Using the Ontario Crohn's and Colitis Cohort, children <18y with IBD diagnosed between 1994-2012 in Ontario were identified using validated algorithms from health administrative data, and matched on age, sex, rurality, and income to children without IBD. We evaluated trends in the number of IBD-specific and all-cause outpatient visits, emergency department (ED) visits, and hospitalizations using negative binomial regression. Cox proportional hazards regression models described changes in the risk of intestinal resection (Crohn's disease; CD) and colectomy (ulcerative colitis; UC) over time. Results are reported as annual percentage change (with 95%CI) for events within 5 years from the diagnosis/index date.

**Results:** IBD-specific hospitalization rates decreased by 2.5% (95%CI 1.8-3.2%) per year, but all-cause hospitalization rates in children without IBD decreased faster (APC, 95%CI: 4.3%, 3.5-5.1%, interaction p-value=0.0028). The risk of intestinal resection for CD decreased by 6.0% (95%CI 4.6-7.3%) and the risk of colectomy for UC decreased by 3.0% (95%CI 0.7-5.2%) per year. IBD-specific outpatient visit rates increased after 2005 by 4.0% (95%CI 3.1-4.9%) yearly. Similar trends were not observed in children without IBD.

**Conclusion:** Decreasing risks of intestinal resection and colectomy in children with IBD suggest changes in disease management. Decreased hospitalization rates in IBD were mirrored in non-IBD children, indicating universal care changes. Understanding why these trends are occurring may help us better understand how to provide optimal care to children with IBD.

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## *Selection of Patient Reported Experience Measures (PREMS) for public reporting in Canada: Key findings from CIHI's mixed methods approach*

Ms. Naomi Diestelkamp, CIHI

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Understanding patient experience is important in informing quality of care in hospital settings. In Canada, public reporting of comparable patient experience measures is limited. Recognizing this gap, CIHI set out to identify 3-5 measures from an existing set of 23 from the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) for public reporting. A comprehensive process was used to ensure the measures reflected patient, clinician, facility, and health-system voices and drove improvement in patient-centered care.

**Approach:** Using a mixed methods approach, CIHI gathered feedback from jurisdictional stakeholders, clinicians and patients on the 23 CPES-IC measures. The process involved several mechanisms for gathering input from a mix of stakeholders including an Expert Advisory group, a modified Delphi survey, and public consultation. As part of the modified Delphi process participants scored each of the measures based on relevance, impact on experience, actionability, interpretability, and overall priority. Public survey participants identified three aspects of care they considered the most important along with rationale. Following both surveys, the expert advisory group discussed the results in order to make a recommendation.

**Results:** Forty-one individuals representing patients, clinicians, hospitals, and provincial and regional organizations responded to the Delphi survey. The public survey was completed by 117 people from across Canada. Feedback results highlighted notable differences across groups– for example, patients and clinicians did not rank the same measures highly. Additionally, public survey participants chose communication with doctors (56.4%) and communication with nurses (47.0%) as being among their “top 3” most important measures for hospitals to focus on in order to improve patient experiences. Key themes heard throughout the qualitative feedback included “respect and dignity”, “trustworthy and supporting staff”, and “conflicting information”. Following the surveys, the expert advisory group discussed the results in combination with analytical results and measure variations, and recommended five CPES-IC measures for public reporting.

**Conclusion:** Based on feedback received throughout the selection process, 5 measures were identified for public reporting by CIHI in 2021. The identified measures touch on a mix of themes and highlight what clinicians, hospitals, and regions can focus on in order to improve patient experience and ensure patients’ preferences are met.

**Author Names:** Naomi Diestelkamp, CIHI; Doreen MacNeil, CIHI



## *Towards a 'Whole Family Approach' to Children's Health: Findings from a Community Engagement Process*

Ms. Chelsea D'Silva, Trillium Health Partners

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** The Family & Child Health Initiative (FCHI) is a community-based research project housed at the Institute for Better Health, Trillium Health Partners. The objective is to partner with local families and organizations in Ontario's Peel Region to a) develop community and evidence-based health programming and b) increase collaboration across organizations and sectors. This paper will report findings from our initial community engagement process conducted in 2019 and discuss learnings from this participatory approach.

**Approach:** FCHI's design draws on principles of community-based participatory action research with the intention of setting the project's research and programming priorities in partnership with community members, including local families and organizational representatives. In the first phase of our community engagement, we conducted interviews and focus groups with n=150 representatives from the public and non-profit sector; collected data was then analyzed thematically and presented back to participants in a 1-day event. The engagement objectives were to i) build relationships; ii) learn more about the organizations' work, iii) understand the primary health issues facing local families, and iv) identify opportunities for collaborations.

**Results:** We will report three main themes from our findings: a) challenges to mental health (e.g. stress, poverty, racism, stigmatization, access, and social isolation) were the primary issues facing local families; b) stigmatization is a prevalent barrier to health for many people in the community; c) there is a need for culturally diverse health prevention and promotion approaches and resources. Through the engagement process the concept of "whole family health" emerged as a way of understanding a family-wide and community-wide approach to 'health' as overall quality of life (i.e. physical, mental, social) for families beyond the absence of illness. We will also highlight examples of opportunities for community-based health and wellness programming and research projects that have emerged from this work.

**Conclusion:** This presentation reports findings from the FCHI's first phase of community engagement, offers learnings from the participatory process, and opportunity for reflection on the systemic aspects of building a 'whole family health' approach within context of the current development of collaborative Ontario Health Teams (OHT).

**Author Names:** Chelsea D'Silva, Trillium Health Partners; Sara Martel, Trillium Health Partners; Ian Zenlea, Trillium Health Partners; Dianne Fierheller, Trillium Health Partners; Christine Heidebrecht, Institute for Better Health, Trillium Health Partners

## *Feasibility and effects of an audit and feedback intervention with a nursing team in primary care: A pilot study*

Ms. Émilie Dufour, Université de Montréal

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** There is little performance measurement of nursing care due to limited access to data. Although audit and feedback interventions show favorable results on performance improvement, its effectiveness and some of its components are poorly understood. This pilot study aims to evaluate the feasibility and preliminary effectiveness of an audit and feedback intervention with a nursing team in a Local community Health Center in Quebec, Canada.

**Approach:** A quasi-experimental design with three measurement times was used. Seven nursing-sensitive indicators were measured using clinical and administrative data and based on episodes of wound care. These indicators included teaching, relational continuity and treatment planning. Data were collected once (T1), then after 6 (T2) and 12 months (T3). Indicators were reported back to clinicians and managers in two feedback sessions that took place between T1 and T2, then between T2 and T3. Feedback sessions were led by a clinician with whom the nursing team was acquainted. Feedback was communicated verbally and in writing through graphs and key messages.

**Results:** The intervention included two complete cycles of audit and feedback. Regular team members attended both feedback sessions, including registered nurses and managers. Most of the first session was spent on discussing indicators, which led to a lack of time for reflection and action planning. The team was more involved in defining the action plan in the second feedback session. Scores for the indicators were compared from March 2018 (T1) to August 2019 (T3) based on samples of 404 and 482 patients. The teaching indicator was the only one for which we found a significant improvement. The treatment planning indicator showed slight improvement although not statistically significant. The continuity indicator as well as two outcome indicators showed significant decrease.

**Conclusion:** All indicators were considered clinically relevant, but certain associated measures for action were inconsistent with the current management practices. An audit and feedback intervention is feasible and engages nursing team members but needs to better support actions both at an individual and collective level.

**Author Names:** Émilie Dufour, Université de Montréal; Arnaud Duhoux, Université de Montréal; Damien Contandriopoulos, University of Victoria; Mylaine Breton, Université de Sherbrooke; Marie-Thérèse Lussier, Université de Montréal

***"It's not patient care, it's bureaucracy!": Behind the burden of bundling care for hip and knee replacement surgery in Ontario, Canada***

Dr. Gayathri Embuldeniya, Institute of Health Policy, Management and Evaluation, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Ontario implemented a bundled payment system for hip and knee replacement surgery in 2018, inclusive of acute and post-acute care. It was hoped that redesigned clinical pathways coupled with a single payment to a healthcare provider group would reduce hospital stays and readmissions, while improving patient and provider experience. We sought to understand what was involved in this change effort and how these changes were received by healthcare providers and administrators.

**Approach:** A qualitative case study approach was adopted, with seven programs purposively selected from 29 to understand how different partnership models (E.g. contracts, informal working relationships, hub and spoke structures) and program contexts (E.g. size and geography) informed participant reception. Two qualitative researchers conducted 47 one hour-long interviews – 11-12 with each program – from February– May, 2019. Interviews were conducted with participants from hospitals and rehabilitation programs, including leaders, managers, and clinicians. Interviews were recorded, coded, and thematically analysed. Themes were identified both within and across cases, to generate an understanding of individual programs as well as similarities and differences

**Results:** Two key changes emerged: 1) A move away from one-on-one at-home rehabilitation to outpatient group rehabilitation, and 2) a significant increase in administrative burden. Despite programs adopting different partnership models, all had challenges with case costing, volume prediction, invoice tracking and sharing patient information. In addition, some worried about masking costs to simulate success, not clearly understanding policy-makers' expectations, and expectations not accounting for unique program contexts, from rurality to patient complexity. Some participants were concerned about uneven physician engagement, while physicians themselves were worried about privileging bureaucracy over patient care. While sharing concerns about administrative burden, a program that featured high physician engagement stood apart in enthusiastically welcoming the initiative.

**Conclusion:** While bundled care for hip and knee replacement surgery had some support, most participants saw it as not merely administratively burdensome, but a return to siloed care. Focusing on administrative coordination threatened to pit patients and paperwork against each other. The casualty, it appeared, was the experience of integration itself.

**Author Names:** Gayathri Embuldeniya, Institute of Health Policy, Management and Evaluation, University of Toronto; Jennifer Gutberg, Institute of Health Policy, Management, and Evaluation, University of Toronto; Kevin Walker, HSPRN; Ruth Hall, ICES; Walter Wodchis, University of Toronto

## *Mothers and fathers provide different reports on aspects of the pediatric patient experience*

Dr. Paul Fairie, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Measures of the pediatric patient experience often rely on surveys of parents and caregivers. While parents are excellent sources of information about their own children, it is important to understand how parental features can influence how the pediatric patient experiences are reported. Research shows that mothers and fathers differ in their relationships with their children, and the purpose of this study was to determine if patient experience survey measures differ systematically between mothers and fathers.

**Approach:** Caregivers (primarily parents) completed the Child-Hospital Consumer Assessment of Healthcare Providers and Systems (Child-HCAHPS) survey by telephone within 6 weeks of hospital discharge. Surveys were subsequently linked with electronic medical records. We examined 46 patient experience measures including overall ratings as well as ratings of specific aspects of the hospitalization (such as communication with providers or quality of the physical environment), and compared the responses of mothers to fathers.

**Results:** A total of 7,951 surveys were completed, with the large majority having been completed by mothers (n = 6,770) rather than fathers (n = 898), with the remainder filled out by non-parent caregivers. Comparing the results of mothers to fathers, fathers rated the overall hospital experience more highly (8.9 out of 10 vs 8.7,  $p = 0.001$ ), felt more comfortable with the explanations provided by hospital staff (about medication, discharge, and other areas), and rated the environment (quietness, cleanliness, and availability of toys) of the hospitals more positively. Mothers and fathers did not differ on most ratings of provider communication.

**Conclusion:** Mothers and fathers differ in their reports of their child's care. These findings can help analysts interpret survey results, especially when different mixes of mothers and fathers respond. The results align with earlier research on adult care experiences, which suggests that a gendered component of perceptions of care exists.

**Author Names:** Paul Fairie, University of Calgary; Brian Steele, University of Calgary; Kyle Kemp, University of Calgary; María José Santana, Cumming School of Medicine, university of Calgary

## *Polypharmacy in Canada: What can Canada learn from Scotland, and why?*

Mr. Matthew Farr, Institute of Health Policy, Management and Evaluation

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Prescription use increase with age, primarily because of multiple chronic conditions. This puts seniors at an increased risk of being prescribed 5 or more medications, often referred to as polypharmacy. This paper compares the rates of polypharmacy across several OECD countries, and identifies Scotland as an exemplary case. This paper uncovers a complete account of Scotland's strategy surrounding senior polypharmacy to answer this simple question: what can Canada learn from Scotland about polypharmacy, and why?

**Approach:** This study compares rates of polypharmacy from seven OECD countries' health information bodies. This paper then utilizes findings from seven semi-structured key informant interviews from high-level policymakers and healthcare workers in Scotland, the country with the lowest rates, for a full account of Scotland's polypharmacy strategy. Grey literature data is used to supplement findings within the interview data. Interview data is then processed via thematic analysis, and guided by the 3-I Framework, and the Walt & Gibson Health Policy Triangle, to frame the information for an international comparison and to determine the translatability of this data into a Canadian context.

**Results:** The comparison between Canada, Italy, Sweden, Scotland, Belgium, Germany, and the USA revealed Canada as having the worst rate of polypharmacy in seniors at 65.7 percent, and Scotland as the most exemplary country at 28.6 percent. We will present our findings on Scotland's complete polypharmacy strategy, including a historical look at Scotland's polypharmacy rates and the politics that led to its polypharmacy strategy. We will present findings of a comparison between Scotland and Canada's polypharmacy related cost-expenditures and present a case for how we may translate some of these findings into a Canadian context.

**Conclusion:** Canada may seem to be in a dire position in addressing polypharmacy, but further examination of this international comparison reveals that Canada is not far behind Scotland. Our results show that Canada may certainly learn from Scotland, with many cost-saving polypharmacy initiatives able to translate well into a Canadian context.

**Author Names:** Matthew Farr, Institute of Health Policy, Management and Evaluation

## *Barriers and Facilitators to Accessing Services for Canadian Youth with Disabilities and their Families*

Ms. Brittany Finlay, School of Public Policy

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Canadians with disabilities face high rates of poverty and experience challenges in daily living, which limits their health equity and hinders their full participation in society. To address these challenges, governments provide disability programs. Previous work shows that utilization of these programs is relatively low across Canada. This project aims to determine the underlying reasons for low program uptake by investigating how Canadian youth with disabilities and their families experience the process of accessing programs.

**Approach:** This study uses a mixed methods, sequential explanatory approach, with an online survey and follow-up interviews with youth (18-30 years) with disabilities and parents/caregivers of youth (0-30 years) with disabilities. The survey asked demographic questions and questions about accessing programs. At the conclusion of the survey, participants indicated their interest in participating in an interview. Maximum variation sampling was used among those interested to select participants for semi-structured interviews, during which participants elaborated on survey responses and discussed overall experiences accessing programs. Survey data were analyzed with Microsoft Excel, and NVivo was used to perform content analysis of interview data.

**Results:** Analysis of survey data (499 respondents) and follow-up interviews (62 respondents) provides insight into the experiences of youth with disabilities and their families when accessing disability programs, and the important role of these programs in advancing health equity. Our results describe sociodemographic characteristics (province, income, diagnosis, community type) of our sample, and participant familiarity with and experience applying for disability programs. We also use themes generated from analysis of participant interviews to identify barriers and facilitators to program access. Key facilitators identified include physician knowledge of programs, support from third parties, and parent networks. Key barriers include long waitlists, a challenging application process, and a lack of accessible information about programs. We also describe distinctions between provinces, and between families with and without program

**Conclusion:** This study reveals experiences of youth with disabilities when accessing disability programs, and the role of these programs in advancing health equity. These findings have important implications for service and health providers, and can contribute to policy changes that can improve program access and support for Canadians with disabilities.

**Author Names:** Brittany Finlay, School of Public Policy; Jennifer D Zwicker, University of Calgary - School of Public Policy; David Nicholas, University of Calgary ; Lucyna Lach, McGill University; Dercia Materula, School of Public Policy, University of Calgary; Kathleen O'Grady, Quoi Media Group

**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Health Technology Assessment (HTA) bodies assist public payers in priority-setting by evaluating the effectiveness of technologies, side-effects and total costs. HTA assessments increasingly encompass ethical and societal factors, but infrequently incorporate legal factors. This talk will make a case for both incorporating legal analysis into the HTA process—ensuring that coverage decisions reflect legal requirements for procedural fairness, patient autonomy, privacy, non-discrimination and substantive equality-- and suggest the means by which to do this.

**Approach:** Selecting HTA decisions from relevant Canadian databases, we will illustrate a typology of the kind of legal questions that may arise in the context of an assessment of different technologies (personalized medicines, medical devices, artificial intelligence, robotics) including issues such as privacy law, human rights laws, rights to a fair process in decision making, and possible Charter claims. From this and synthesizing and adapting various accounts of how to best attend and prioritize treatment of ethical issues, we propose a framework to support HTA bodies both to identify and then prioritize legal issues for deeper analysis.

**Results:** As a new wave of technologies emerge in health care (for example AI and big data products), including legal analysis at the HTA stage will limit the scope for subsequent court challenges against public payers by dissatisfied technology producers and patients. Because of the significant costs of legal advice, HTA decision-makers need tools to assist those without legal training to both identify and prioritize legal issues such as, for example, a potential s.15 Charter challenges of equal protection under the law by (e.g.) women, people with disabilities, and LGBTQ+ people. We propose new tools to assist HTA decision-makers, without formal legal training, to first identify relevant legal issues and then a process to prioritize those legal issues requiring deeper analysis.

**Conclusion:** It is often assumed that attending to ethical issues will account for legal issues. We illustrate through case-studies why this assumption is incorrect and propose new tools to assist HTA bodies (and public payers) to identify and triage those legal issues that require deeper consideration.

**Author Names:** Colleen Flood, University of Ottawa

# *Use of health services for mood and anxiety disorders: a population-based study on the role of neighbourhood marginalization using linked data*

Dr. Ismael Foroughi, University of New Brunswick

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** While a growing body of literature suggests that neighbourhood environments are associated with physical health, little is known on the features of local communities that may shape differences in health services use for mood and anxiety disorders. This study aims to assess the association between neighbourhood environments and mental health visits in the province of New Brunswick, Canada, as a driver for prevention.

**Approach:** We linked person-based administrative health datasets with geospatial datasets to examine associations between neighbourhood environments and use of medical and hospital services for mood and anxiety disorders among the population aged 1 year and older in 2015/16. We used multiple logistic regression to estimate the risk of healthcare use by measures of neighbourhood marginalization and active living environments, controlling for individuals' age, sex, and place of residence (urban/rural). Neighbourhoods were delineated as census dissemination areas. The de-identified data were accessed in the secure facilities of the New Brunswick Institute for Research, Data and Training.

**Results:** Data linkage allowed us to analyze administrative health records for 707,575 persons aged 1 year and older residing in 1,374 neighbourhoods. Among these residents, 10.7% had used health services for a mood or anxiety disorder at least once in 2015/16 which 66% of those were females. The regression results indicated that the odds of healthcare use were significantly greater among patients living in neighbourhoods characterized with high material deprivation (OR: 1.067 [95%CI: 1.046-1.089]) and the risk was even more pronounced for females (OR: 1.096 [95%CI: 1.069-1.124]). Local environments with higher residential instability also had higher odds ratios for patients using healthcare usage due to mood and anxiety disorder (OR: 1.074 [95% CI: 1.056-1.093]) compared to those residing in more stable neighbourhoods.

**Conclusion:** Results suggest that selected features of neighbourhood environments may be associated with differential burden to the healthcare system for mood and anxiety disorders, and highlight the importance of built environments in supporting healthy public policies, especially in marginalized neighbourhoods.

**Author Names:** Ismael Foroughi, University of New Brunswick ; Neeru Gupta, University of New Brunswick ; Daniel Crouse, University of New Brunswick



## *Exploring patient experiences of early pregnancy loss care in Ontario through healthcare journey mapping*

Ms. Angela Freeman, University of Waterloo

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Miscarriage occurs in approximately 25% of pregnancies, with most happening within the first trimester. Patients often access healthcare services with the onset of distressing symptoms, but the use of healthcare services varies from patient to patient. This paper's objectives are to (1) explore patients' experiences accessing care for early pregnancy loss in Ontario and (2) utilize healthcare journey mapping as a visual tool for analyzing the use of healthcare services and identifying areas for improvement.

**Approach:** For this qualitative study, 15 participants were recruited through midwifery clinics to take part in semi-structured interviews exploring their experiences with Ontario healthcare services in cases of first trimester loss. Participants were eligible to participate if their pregnancy loss occurred within the last three years. A thematic analysis was completed with the focus on patient experiences. Data were analyzed to identify the healthcare services and providers accessed and the settings in which services were received. Healthcare utilization maps were developed based on the participants' accounts.

**Results:** Our healthcare utilization maps indicated that patients experiencing early miscarriage have several points of contact with healthcare providers, settings and services, but how patients navigate the healthcare system varies considerably. Factors related to healthcare access and equity, such as geographic location, insurance coverage, and availability of primary care providers appear to influence what services are used. Additionally, the symptoms experienced during pregnancy loss may dictate what services are accessed and when. Our qualitative analysis provides further contextual information on how patients perceive and experience the use of healthcare services and highlights potential areas for improvement within the healthcare system for individuals experiencing early pregnancy loss.

**Conclusion:** A healthcare utilization map is a useful tool for visualizing and comparing how patients access and use services within a healthcare system in cases of early pregnancy loss. Patient healthcare experiences of services in Ontario vary considerably and highlight potential areas for improvement.

**Author Names:** Angela Freeman, University of Waterloo; Elena Neiterman, University of Waterloo; Samantha Meyer, University of Waterloo

## *Helping bridge gaps between patients and providers: Experiences from community volunteers in a primary care-based program*

Ms. Jessica Gaber, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Volunteers help support patient health and organizational efficiency in settings including hospitals and communities. However, the use of volunteers in Canadian primary care is largely unexplored. To retain an engaged volunteer pool, it is vital for volunteers to have positive experiences. In this study we explored volunteer and volunteer coordinator experiences in Health TAPESTRY, a community-based program anchored in primary care which aims to help people stay healthier for longer at home.

**Approach:** At approximately the one-year mark of the program in each of six sites across Ontario, all existing Health TAPESTRY volunteers and volunteer coordinators (VCs) were invited to take part in semi-structured focus groups or interviews based on a guide rooted in Normalization Process Theory. Overall, twenty-three volunteers and six VCs participated. Data were analyzed through descriptive thematic analysis conducted in NVivo 12. Analysis focused on volunteers' experiences within Health TAPESTRY, particularly their understanding of their role, the training, the process of engagement, supporting system navigation through connecting clients with community programs, and the impacts and outcomes of volunteering.

**Results:** The data suggests that overall, volunteers enjoyed home visits. Working with a partner on visits was the key facilitator of the volunteer experience, while lacking further training and practice (especially on technology used in the program) was the main barrier. Volunteers primarily saw their role as gathering information during visits: acting as a bridge between clients and family medicine clinics. Volunteers felt well trained yet identified some content gaps. The onboarding process felt lengthy. Some volunteers were able to connect clients to community programs, but others struggled with knowing how and when to make linkages. Volunteering with Health TAPESTRY made some volunteers consider their own aging and wellness and increased their learning about older adults, while others felt there was no impact on them.

**Conclusion:** Volunteer and VC perspectives included concrete suggestions for program improvement. After final data analysis, understanding their experiences within Health TAPESTRY can shape future primary care programs which integrate volunteers, help program facilitators understand how best to coordinate and support volunteers, and extend health human resources to better support patients.

**Author Names:** Jessica Gaber, McMaster University; Fiona Parascandalo, McMaster University; Ruta Valaitis, McMaster University; Doug Oliver, Department of Family Medicine, McMaster University ; Larkin Lamarche, McMaster University; Derelie (Dee) Mangin, McMaster University; Stepanie Di Pelino, McMaster University Department of Family Medicine; Julie Datta, McMaster University Department of Family Medicine

## *Enhancing hypertension surveillance through linking primary care EMR and administrative data: describing the process and representativeness in Alberta*

Ms. Stephanie Garies, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Hypertension is a common yet serious chronic condition that requires accurate, timely surveillance. In Canada, surveillance is usually conducted using administrative data (physician claims, hospital data) or surveys. Electronic medical records (EMRs) from primary care settings provides a significant opportunity to enhance surveillance systems with detailed, longitudinal point-of-care data.

Objective: to describe primary care EMR and administrative data linkage in Alberta, Canada, and determine how representative and relevant the linked data are for hypertension surveillance.

**Approach:** De-identified EMR data collected from 323 primary care providers who contribute to the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) in Alberta were used. Providers agreeing to the data linkage contributed a partial re-identification key that enabled linkage to administrative data held within the provincial health system's data warehouse; this included in-patient hospitalizations, emergency department visits, pharmacy dispensations, practitioner claims, and the provincial healthcare registry.

The linkage was conducted deterministically using a valid personal healthcare number (PHN), age and sex. The representativeness of patients and providers in the linked cohort compared to provincial population-level sources was assessed.

**Results:** 55 primary care providers from 21 clinics agreed to the linkage; re-identification keys could not be generated for 6 providers (and thus excluded). 6,307 hypertensive patients from the EMR data were linked to administrative data (96.2% linkage). Non-linkages from invalid PHN (n=246) occurred more often for deceased patients and differed by type of EMR used in the practice ( $p<0.001$ ).

Patients in the linked cohort were more often female, >65 years, and residing rurally compared to the provincial healthcare registry. Family physicians contributing to the linkage were more often female and either younger (<39 years) or older (>60) compared to the 2018 CIHI Physicians in Canada report. By administrative source, linkages were high (>99% for registry, pharmacy, claims) or reasonably expected (44.3% hospital discharges; 97% emergency/urgent care).

**Conclusion:** This novel linkage of primary care EMR and administrative data is not routinely conducted in Alberta. Challenges exist with selection bias and generalizability using the current linkage process. Future work will examine the linked hypertensive cohort in terms of blood pressure trajectories over time, prescribed/dispensed antihypertensive medications, and healthcare utilization.

**Author Names:** Stephanie Garies, University of Calgary; Hude Quan, University of Calgary; Neil Drummond, University of Alberta ; Donna Manca, University of Alberta; Kerry McBrien, University of Calgary; Tyler Williamson, University of Calgary

## *Discharge Outcomes of Psychiatric Inpatients with a Lifetime History Exposure to Interpersonal Trauma: a Population-Based Study*

Mrs. Evgenia (Jenny) Gatov, ICES

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Interpersonal trauma (i.e., a history of sexual, emotional, or physical abuse or assault) is highly prevalent among psychiatric inpatients and may result in poor outcomes. We examined the circumstances of discharge, post-discharge follow-up, and 1-year patient outcomes among psychiatric inpatients with and without a history of trauma.

**Approach:** In this population-based cohort study, we used linked health-administrative databases to capture all adult psychiatric inpatients in Ontario, Canada (N=160,436) and the Resident Assessment Instrument-Mental Health to ascertain their lifetime trauma exposure. Using modified Poisson regression with robust standard errors, we examined the risk of discharge against medical advice (DAMA), 30-day post-discharge physician follow-up, and 1-year post-discharge acute care use, deliberate self-harm and suicide among those with (31.7%) and without (68.3%) a history of trauma, adjusted for age, sex, socioeconomic status, comorbidities, and psychiatric diagnosis. Additionally, we stratified our analyses by discharge diagnosis.

**Results:** Inpatients with a history of interpersonal trauma, compared to those without, were more likely to be DAMA (5.6% vs. 4.6%; adjusted risk ratio, aRR [95% CI]=1.27 [1.21-1.33]). They were more likely to visit a primary care provider within 30 days post-discharge (37.6% vs. 34.5%, aRR=1.06 [1.04-1.08]), but less likely to visit a psychiatrist (35.1% vs. 37.8%, aRR=0.87 [0.86-0.89]). At 1-year post-discharge, trauma was positively associated with a psychiatric emergency department visit (31.0% vs. 28.3%, aRR=1.04 [1.02-1.06]) and deliberate self-harm (5.5% vs. 3.7%, 1.30 [1.23-1.36]), but was not associated with suicide deaths (0.5% vs. 0.7%, aRR=0.88 [0.76-1.02]). There was variability across diagnostic groups; trauma was associated with an elevated risk for acute care and deliberate self-harm in schizophrenia, and a lower risk in substance-related disorders.

**Conclusion:** A history of interpersonal trauma is associated with DAMA, and poor discharge and post-discharge outcomes among psychiatric inpatients, with some variation across diagnostic groups, suggesting the need for integrating trauma-informed approaches in planning transitions back to the community and ambulatory care after discharge.

**Author Names:** Evgenia (Jenny) Gatov, ICES; Nicole Koziel, Women's College Hospital; Paul Kurdyak, CAMH; Natasha Saunders, The Hospital for Sick Children; Maria Chiu, Institute for Clinical Evaluative Sciences ; Michael Lebenbaum, ; Simon Chen, Institute for Clinical Evaluative Sciences; Simone Vigod, Women's College Hospital

## *Choix et sélection d'indicateurs de qualité pour une pratique réflexive autour de la transition des soins des aînés avec besoins complexes : Processus et résultats*

M El Kebir Ghandour, Institut national d'excellence en santé et en services sociaux (INESSS)

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** French

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Les transitions de soins représentent des zones de fragilité dans le continuum des soins des aînés avec besoin complexes (maladie d'Alzheimer-MA et autres troubles neurocognitifs-majeurs-TNCM), les exposant aux risques d'utilisation inappropriée de services, d'événements indésirable évitables, d'institutionnalisation et décès prématuré. Le CISSS-Chaudière-Appalaches implante un atelier de pratique réflexive (projet-COMPAS+), portant sur des indicateurs de santé et services. Objectif : identifier un ensemble minimal d'indicateurs permettant de repérer des cibles d'amélioration des transitions par services de proximité intégrés

**Approach:** Afin d'identifier des mesures permettant de renseigner sur la qualité des pratiques, il a été utile d'intégrer les aspects cliniques et organisationnels de la prise en charge des aînés dans la communauté. Démarche en 5 étapes: 1) recension de la littérature sur les bonnes pratiques de prise en charge de MA/autres TNCM, sur les bonnes pratiques en transition de soins et les indicateurs ; 2) développement de liste préliminaire d'indicateurs identifiés; 3) première sélection par équipe interne à l'INESSS, 4) consultation en ligne d'experts sur la pertinence des indicateurs retenus et 5) consensus d'experts québécois pour régler les différents persistant

**Results:** Notre recension de la littérature a repéré 1) 5 documents de base (2 du MSSS et 3 de l'INESSS) sur la prise en charge de MA/autres-TNCM, 2) des recommandations de transition de qualité et les composantes essentielles d'un processus idéal de transition des aînés; 3) des normes de qualité de la transition développées par certaines organisations et 3) 57 indicateurs utiles aux pratiques réflexives visées. Cette première liste d'indicateurs est en révision par des experts de l'INESSS (cliniciens/chercheurs/experts en mesure). Les indicateurs retenus feront l'objet de consultation d'experts en ligne selon les attributs de mesures de qualité du Agency for Healthcare Research and Quality (AHRQ). Ainsi, une rencontre de consensus est planifiée en février-2020 pour une liste finale d'indicateurs

**Conclusion:** Les indicateurs identifiés renseigneront sur des dimensions de qualité utiles pour stimuler des pratiques réflexives visant l'amélioration des transitions des aînés atteints de MA/autres TNCM. Ces mesures aideront les professionnels à identifier des cibles d'amélioration de leur pratique et les organisations à mesurer, évaluer et améliorer leur rendement en transition

**Author Names:** El Kebir Ghandour, Institut national d'excellence en santé et en services sociaux (INESSS); Patrick Archambault, CISSS Chaudière-Appalaches (Secteur Alphonse-Desjardins) Université Laval; Denis Roy,

*Equity, care and health service use in community-dwelling persons with dementia, a population-wide descriptive study from Quebec (2000-2017)*

Dr. Claire Godard-Sebillotte, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Evidence shows inequities associated with socioeconomic status (SES) in the care of persons with dementia. However, evidence is scarce and conflicting. There is an urgent need to describe the association between socioeconomic status, care received, and health services use in persons with dementia in order to ensure equity across all levels of SES. We described prevalence and trends of care and health service use across SES in community-dwelling persons with dementia in Quebec.

**Approach:** We conducted a repeated yearly cohort study of community-dwelling persons with incident dementia using the Quebec health administrative database (2000-2017). We described age standardized rates per 100 person-year of indicators of care and health service use during the year following diagnosis across 5 SES levels based on the area of residence. We used the material deprivation Pampalon index: a composite measure of the level of education, employment, and income of the census dissemination area level. We assessed the trends in indicators based on graphical assessment, absolute, and relative changes by SES groups.

**Results:** Among the 237,635 community-dwelling persons with a new diagnosis of dementia between 2000 and 2017 (63% women, mean age 81,3 year), those living in the most deprived areas compared to those living in the least deprived areas had more hospitalization (44,15 vs 35,67 per 100 person year), more ED visits (63,09 vs 53,84). In addition, they were prescribed more potentially inappropriate medications including antipsychotic (33,55 vs 26,60) and benzodiazepines (42,73 vs 34,52). There was no trend towards a decrease in these differences over time. In contrast, prescription of anti-dementia treatment was comparable in every socio-economic group.

**Conclusion:** These socio-economic differences may signal inequities in the care received in persons with dementia. Future research should investigate these associations to better understand their underlying causes and the best way to tackle them, in order to offer equitable care to the entire Canadian population living with dementia.

**Author Names:** Claire Godard-Sebillotte, McGill University; Genevieve Arsenault-Lapierre, Family Medicine Department of McGill University; Amélie Quesnel-Vallée, McGill University ; Nadia Sourial, Department of Family Medicine, McGill University; Louis Rochette, Institut National de Santé Publique du Québec ; Isabelle Vedel, McGill University

*Prevalence of exposure to harmful drug-drug interactions among community-dwelling non-elderly adults in Quebec*  
Mrs. Araceli Gonzalez-Reyes, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Patients' exposure to prescription drug-drug interactions (DDI) is a preventable source of iatrogenic morbidity and mortality. Patient harm caused by exposure to DDI is under-detected in clinical settings, and the prevalence of exposure to DDI among Canadians is unknown. Quebec's Institute for Excellence in Health and Social Services (INESSS) supports health interventions for people with multimorbidity. This work aimed to measure the one-year prevalence of exposure to high-priority DDI among Quebec's community-dwelling non-elderly adults.

**Approach:** A quantitative longitudinal descriptive study was conducted on a sample of community-dwelling adult members of Quebec's public medication insurance regime (RGAM) from 2014-2016. Provincial administrative health databases were used to assess participants' sex, age, index of deprivation, and health service use. Periods of exposure to each drug were identified from RGAM claims, based on the date of purchase and the expected duration of each dispensed drug, by active ingredient; periods where two or more drugs were expected to overlap were identified. A list of high-priority clinically-important DDI based on expert sources was used to assess patients' exposure to a DDI.

**Results:** Our random sample consisted of 63834 community-dwelling adults who were covered by the provincial medication insurance regime during the study period. Of these, 39289 purchased at least two drug active ingredients during the study period, and 33273 had at least one day of expected exposure to more than one drug active ingredient. Among these, 7498 people were exposed to at least one DDI in 2016. The most frequently observed DDI (569 individuals) consisted of the combination between the SSRI antidepressant citalopram and the antipsychotic quetiapine. An association between deprivation index and exposure to a DDI was observed, with 2385/17252 (13.82%) and 702/7943 (8.84%) exposed to at least one DDI among those of the highest and lowest index of social and material deprivation, respectively.

**Conclusion:** Exposure to high-priority DDI is common among non-elderly adult outpatients in Quebec, with 7498/63834 (11.75%) of community dwelling adults exposed to at least one day of DDI over one year. It is not known to what extent this exposure leads to patient harm.

**Author Names:** Araceli Gonzalez-Reyes, McGill University; Pierre Pluye, McGill University; Tibor Schuster, McGill University; Denis Roy, Canadian Association for Health Services and Policy Research

# *Sociodemographic Predictors of Multimorbidity among High-System Users and Controls in Saskatchewan: A Retrospective Analysis Using Database linkage*

Dr. Donna Goodridge, College of Medicine, University of Saskatchewan

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**Category:** Oral Presentation

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Background: This study compared high-system user and control Saskatchewan residents discharged from hospital with Ambulatory-Care Sensitive Conditions (ACSC) common in adults (diabetes, ischemic heart disease (IHD), heart failure, Chronic Obstructive Pulmonary Disease [COPD]) on the basis of: a) patterns of multimorbidity; and b) sociodemographic predictors of multimorbidity.

**Approach:** Methods: This retrospective study used linked data sources from the Discharge Abstract Dataset (DAD) of the CIHR-CIHI Dynamic Cohort of Complex, High-System Users and the T1 (taxation) Family File. Four High-System User groups (n=7,670-7,835) and four control groups (n=30,665-31,345) for fiscal years 2011/12-2014/15 were analyzed. Multimorbidity was defined as the presence of at least one index ACSC co-existing with one or more index or comorbid diseases. Associations between multimorbidity and sociodemographic factors were examined using multivariate regression.

**Results:** Results: Multimorbidity was predicted mostly strongly, and on a stepwise gradient, by age. Persons with the lowest income adequacy had a higher likelihood (O.R. 1.83-2.04, 95% CI 1.57-2.38) than those with the highest income adequacy of multimorbidity. Multimorbidity was significantly higher in high system users (O.R. 1.39-1.68, 95% CI 1.27-1.83) and those with a non-urban residence (O.R. 1.35-1.62, 95% CI 1.20-1.66). A strong interaction effect was noted between high system use and sex, with male high system users significantly less likely (O.R. =0.73-0.79, 95% CI=0.61-0.93) than female controls to experience multimorbidity.

**Conclusion:** Sociodemographic characteristics and high system use are predictive of multimorbidity, although further research is needed to deconstruct the complex associations between multimorbidity, sex and high system use.

**Author Names:** Donna Goodridge, College of Medicine, University of Saskatchewan; Ha Le, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Hyun Lim, Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Cordell Neudorf, Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Lloyd Balbuena, College of Medicine, University of Saskatchewan; Heather Ward, College of Medicine, University of Saskatchewan



*Minding our Health Leadership Gaps: Results of 2019 Canadian Health Leadership Network (CHLNet) Benchmarking Study*  
Ms. Kelly Grimes, Canadian Health Leadership Network

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** CHLNet conducted a baseline survey of perceptions of health leadership gaps in 2014. It revealed notable gaps in terms of succession planning & skill sets needed to lead complex health systems. Objectives of the 2019 study were to re-assess perceptions of these gaps, gauge progress & do a deeper dive into issues/concerns around the representativeness of health leaders, specifically relating to diversity of perspectives in terms of Indigenous Peoples, gender & visible minorities.

**Approach:** An expert working group stewarded the 2019 study. Online surveys were administered using a similar sample frame of 2014. Surveys were comprised of benchmarking questions ('14), tracking perceptions of changes in gaps & efforts to address them, with new questions to probe specific issues concerning diversity of perspectives in terms of Indigenous identity, gender & visible minorities. One survey was sent to organizations (CEO's, COO's, and HR/OD professionals) and a second set sent to individual physicians, nurses, and other healthcare leaders, enabling a comparison of organizational & individual perspectives. Three focus groups, including at CAHSR'19, supplemented the findings.

**Results:** Overall response rate of 30% yielded these high-level results: a. increase in both the health leadership skills/capabilities & supply/demand gap; b. decrease in organizational leadership capacity; c. lower-rated capabilities for systems/critical thinking and encourage & support innovation; d. 89% of organizations have a formal leadership framework in place, with 67% adopting LEADS; e. 40% of respondents said their organizations evaluate the impact of leadership development; f. significant concerns continue around availability of time/resources to expand leadership capacity; g. fewer than 1/3 of respondents consider their leaders to be highly reflective in terms of gender diversity perspectives & 25% described their senior leaders as "not very" or "not at all" reflective; and h. Indigenous peoples are particularly under-represented.

**Conclusion:** Leadership capacity development continues to be a key enabler of both system and organizational performance. While some progress is reported in closing the leadership gaps, many gaps are reported to be worsening. Serious concerns remain in terms of diversity of perspectives of Indigenous people, gender, and visible minorities.

**Author Names:** Kelly Grimes, Canadian Health Leadership Network; Bill Tholl, Canadian Health Leadership Network; Jaason Geerts, Canadian College of Health Leaders; Ivy Bourgeault, ; Owen Adams, Canadian Medical Association; Graham Dickson, Canadian Health Leadership Network

# *Impact of Central Nervous System Depressant Burden on the Relationship Between New Opioid Use and Fracture Risk Among Older Adults*

Ms. Qi Guan, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Central nervous system (CNS) depressants are known to increase the risk of falling. This is particularly dangerous for older adults because falls are a leading cause of injury-related hospitalization and death in this population. However, CNS polypharmacy remains common due to the high prevalence of comorbidities in older adults. Therefore, this study aims to assess whether additional CNS depressant burden modifies the relationship between new opioid therapy and the risk of falls/fractures.

**Approach:** Using administrative data from ICES, we are conducting a cohort study on adults >65 years old who started prescription analgesic therapy (opioid or non-steroidal anti-inflammatory drug [NSAID]) from 2008-2018. Individuals are stratified based on CNS depressant burden (none, low, high), measured by the number of concurrent non-opioid CNS depressant drug classes used (0, 1-2,  $\geq 3$ ). Within each group, opioid and NSAID users are balanced using inverse probability treatment weighting and compared using marginal Cox models to determine risk of wrist/hip fractures in the 14 days following opioid/NSAID therapy. Pairwise comparisons of outcome risk between burden groups are conducted using z-tests.

**Results:** Of the 1,048,330 individuals included in our study, 884,341 (84.4%) had no CNS depressant burden, 157,441 (15.0%) had low burden, and 6,528 (0.6%) had high burden. Opioid and NSAID use was almost evenly split among those with no CNS burden (N=474,813 [53.7%] for opioids and N=409,528 [46.3%] for NSAIDs) while almost 2/3 of the low and high CNS depressant burden groups consisted of opioid users (N=95,926; 60.9% and N=4,079; 62.5%, respectively). Groups experiencing more CNS depressant burden tended to have more females (range: 65.4%-67.5%) and reside in lower income neighbourhoods. While event rates were low, opioid users experienced fractures more than NSAID users (N=449, 0.09% vs N=140, 0.03% for no burden; N=166, 0.17% vs N=41, 0.07% for low burden; high burden values censored).

**Conclusion:** Based on crude values, opioids had more effect on falling than NSAIDs when individuals were free of CNS depressant burden. This may be attributed to lack of tolerance to CNS depressants or increased mobility due to fewer comorbidities but will be explored further with statistical modelling.

**Author Names:** Qi Guan, University of Toronto; David Juurlink, Sunnybrook Health Sciences Centre; Siyu Men, ICES; Susan Bronskill, ICES; Hannah Wunsch, University of Toronto; Pat Messner, Ontario Drug Policy Research Network; Marie McMillan, Ontario Drug Policy Research Network; Tara Gomes, St. Michael's Hospital

## *Refinement of the Patient Engagement In Research Scale (PEIRS) for assessing meaningful engagement*

Dr. Clayon Hamilton, Department of Physical Therapy, University of British Columbia; BC Ministry of Health

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Engaging patients in health services and policy research will advance health equity. Success is reliant on the engagement being meaningful. PEIRS is a conceptually-based 37-item 7-domain self-report questionnaire developed to assess meaningful engagement in research projects from a patient partner perspective. It is designed to test methods of engaging patient partners in research. We sought to use item-level analysis to refine the PEIRS and to assess the internal consistency of the refined PEIRS.

**Approach:** Patient partners on research projects within Canada or the USA completed a cross-sectional online survey containing the PEIRS and demographic questions. Fifty or more participants were needed for moderate quality results. Data analysis that accounted for ordinal response scales were performed in RStudio to explore each item's fit within its domain. Inter-item correlation using polychoric correlation coefficient required values between 0.3 and 0.7 to retain items. Item-total correlation using polyserial correlation coefficient required values above 0.8. Internal consistency of multi-item domains used average inter-item correlation and ordinal coefficient alpha, with adequate values between 0.15–0.50 and 0.70 or higher, respectively.

**Results:** Fifty-five participants (Canada = 49 and USA=6) completed the survey. Participants reflected all age groups from 18 through 75 years, levels of education, levels of household income, and four gender designations. Removal of 13 items from five of the seven domains resulted in a 24-item PEIRS. 'Procedural requirements' domain retained four items in each of two subdomains. 'Contributions' retained two items plus one from procedural requirements. 'Convenience', 'team interaction and environment', and 'support' each retained two items. 'Feel valued' and 'benefits' retained all three and four items, respectively. The average inter-item correlation was between 0.40 and 0.50 for the sub-domains of procedural requirements and contributions, and between 0.50 and 0.60 for feel valued and benefits. Ordinal alpha values were between 0.68 and 0.85.

**Conclusion:** Item-level analysis removed measurement discordance and redundancy within domains. A 24-item PEIRS retained two or more items from each domain. The internal consistency of the two subdomains and six domains suggests they could reliably compare groups of patient partners. Test-retest analysis is needed to confirm the reliability of these domains.

**Author Names:** Clayon Hamilton, Department of Physical Therapy, University of British Columbia; BC Ministry of Health; Linda Li, Arthritis Research Centre of Canada ; Annette McKinnon, Arthritis Research Canada; Kelly English, Arthritis Research Canada; Shanon McQuitty, Arthritis Research Canada; Alison Hoens, University of British Columbia

## *Reducing waiting time in community-based outpatient services*

Dr. Katherine Harding, Eastern Health/La Trobe University

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** Waiting lists are often thought to be inevitable in healthcare, but strategies that address patient flow by reducing complexity, combining triage with initial management, and/or actively managing the relationship between supply and demand have shown positive results. One such model, known as Specific Timely Appointments for Triage (STAT) brings these elements together and has reduced waiting times in multiple trials by 30-40%. The next challenge is to translate this knowledge into practice.

**Approach:** In 2017, a fully powered stepped wedge cluster randomised controlled trial involving 8 outpatient health services (n=3116 patients) in Melbourne, Australia, demonstrated that the STAT model reduced mean waiting time from 60 days pre to 36 days (IRR 0.66, 95% CI 0.52 to 0.85). Results supported two previous trials with similar findings, providing sufficient evidence to justify translation into practice. The RE-AIM (Reach, Efficacy, Adoption, Implementation and Maintenance) framework was used to guide the development, implementation and evaluation of a comprehensive knowledge translation strategy, including workshops, development of resources and the establishment of a community of practice.

**Results:** Demonstrating reach, 250 clinicians and managers from more than 40 health services have been trained in the STAT model through the workshop program, and approximately 150 have elected to join an online community of practice. A follow up survey of workshop attendees showed that 61% had adopted the model, with some providing data demonstrating that the STAT model had been effective in reducing waiting time within their service. Barriers to implementation included an overwhelming existing waiting list, an imbalance between supply and demand and lack of resources. Preliminary data from early adopters demonstrates that waiting time reductions can be maintained over 12 months.

**Conclusion:** There is high quality evidence that the STAT model improves access to health services. Using the RE-AIM framework, the STAT model knowledge translation strategy is increasing the uptake of evidence to reduce waiting time in health services. Building on initial success, policy initiatives could facilitate adoption on a broader scale.

**Author Names:** Katherine Harding, Eastern Health/La Trobe University; Nicholas Taylor, La Trobe University; David Snowdon, La Trobe University; Annie Lewis, La Trobe University / Eastern Health

*Strategies to reduce waiting time for community-based paediatric rehabilitation services: Results from a Systematic Review*  
Dr. Katherine Harding, Eastern Health/La Trobe University

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Children referred to community-based rehabilitation services often wait long periods of time for services, resulting in anxiety, deterioration in health conditions and missed opportunities for treatment. This review aimed to appraise and summarize the literature on effectiveness of service redesign interventions to reduce waiting time for outpatient and community-based pediatric rehabilitation services.

**Approach:** A systematic review of the literature was conducted to determine whether service redesign interventions are effective in reducing waiting time for community-based pediatric rehabilitation services, and if so, which strategies are most effective. Health and education databases (MEDLINE, CINAHL, EMBASE, AMED, Psycinfo) were searched combining the concepts 'pediatrics', 'rehabilitation services' and 'waiting for care'. Inclusion criteria included describing interventions to reduce waiting times and reporting data on waiting time. Inclusion/exclusion criteria were applied independently by two reviewers, and the papers appraised for quality. Descriptive and thematic analysis was performed on data extracted relating to intervention characteristics and waiting time outcomes.

**Results:** 28 papers met inclusion criteria. Most were pre-post trials, conducted in mental health (n=13), autism (n=6), orthopedics (n=3), and general rehabilitation/early intervention services (n=6). All but 1 study reported a reduction in waiting time (from referral to first appointment), with a median reduction of 68% across all studies. The most common strategies were models of care promoting rapid access to an assessment/triage appointment (n=9), the use of allied health professionals for initial assessments instead of immediate referral to specialists (n=8), and process redesign approaches aimed at identifying sources of delay and reducing waste (n=7). All three strategies reported similar magnitudes of reduction in waiting time.

**Conclusion:** This review demonstrates that significant reductions in waiting time for pediatric rehabilitation can be achieved and highlights three strategies that work. Evaluations are limited by weak designs, and the likelihood of reporting bias. However, this body of research suggests that access to pediatric services can be improved with evidence-based approaches.

**Author Names:** Katherine Harding, Eastern Health/La Trobe University; Chantal Camden, University of Sherbrooke; Marie Beauséjour, ; Kadija Perreault, Université Laval; Annie Lewis, La Trobe University / Eastern Health; Nicholas Taylor, La Trobe University

*'When I couldn't feed him, it destroyed me': Women's experiences of breastfeeding and the implications for health promotion practice*

Ms. Lauren Harrison, University of Waterloo

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Breastfeeding has been recognized as an ideal nutrition source for infants and, as a result, there has been a strong push for mothers to breastfeed exclusively for at least six months. Public health messaging has created a discourse in which every woman is encouraged to breastfeed, yet rates of exclusive breastfeeding fall below desired levels. This study aims to explore the experiences of women breastfeeding, focusing in particular on women's experiences of failure to breastfeed.

**Approach:** This paper emerged from a qualitative study which examined women's postpartum experiences. Thirty-seven women in the study talked about their experiences breastfeeding and their interviews were analyzed inductively to further understand the impact of breastfeeding on women's wellbeing. The data collection and analysis processes followed a comparative constant analysis approach and was carried out in two phases. First twenty women were interviewed during 2012-2013, and the themes derived from the analysis of this data were expanded upon in interviews that took place during 2018-2019. The analysis moved from open coding to line-by-line coding from which analytic categories were formed.

**Results:** Although some women were successful breastfeeding, a significant number of women were unsuccessful. Many of the women who had positive experiences with breastfeeding felt proud and empowered due to the challenges they felt they overcame to initiate the breastfeeding practice. For women who were unsuccessful breastfeeding, feelings of guilt and personal failure were common, even when they experienced physiological barriers for breastfeeding. The promotion of breastfeeding practice as "natural" often resulted in women feeling unprepared for the skill acquisition necessary for breastfeeding and exacerbated in new mothers feelings of failure, which they interpreted as their inability to be a "good" mother.

**Conclusion:** While breastfeeding is important and should be encouraged due to the multitude of health benefits, public health efforts to encourage breastfeeding should acknowledge the challenges women may experience while attempting to breastfeed. As well, the promotion of breastfeeding should include adequate supports for women who experience difficulty initiating breastfeeding.

**Author Names:** Lauren Harrison, University of Waterloo ; Elena Neiterman, University of Waterloo; Alexandra Chin , University of Waterloo

## *What happens to patients when their primary care physicians retire: A population-based, longitudinal study*

Dr. Lindsay Hedden, Simon Fraser University

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** The retirement of a family physician can represent a challenge in accessibility and continuity of care for patients. In this population-based, longitudinal cohort study, we assess whether and how long it takes for patients to find a new majority source of primary care when theirs retires, and we investigate the effect of patient and physician demographic and clinical characteristics on this process.

**Approach:** We used population-based, administrative billings data to identify a cohort of patients whose majority source of care retired in 2007/8 or 2008/9. We calculated the number of days between last visit with their original MSOC and their first visit with their new one. We compared the clinical and sociodemographic characteristics of patients who did and did not find a new MSOC in the three years following their original physician's retirement. We used cox proportional hazards models to determine the association between the same clinical/sociodemographic characteristics, and time to finding a new primary care provider.

**Results:** We identified 12,013 patients whose MSOC retired in 2007/8 or 2008/09. Fifty four percent of patients found a new MSOC within the first twelve months following their physician's retirement. Six percent of patients still had not found a new physician after 36 months. Patients who were older and had higher levels of morbidity were more likely to find a new MSOC and found one faster than younger, healthier patients. Patients in more urban regional health authorities also took longer to find a new MSOC compared to those in rural areas. Physician characteristics also influenced time to finding a new MSOC. Patients whose original (retired) physician was male and who retired at a younger age had lower time adjusted rates of finding a new MSOC.

**Conclusion:** While most patients find a new MSOC following the retirement of their original physician, the process can be lengthy. Given apparent shortages of longitudinal primary care across most provinces, ensuring a smooth retirement transition will continue to be a salient challenge for policy makers, physicians and their patients.

**Author Names:** Lindsay Hedden, Simon Fraser University; Megan Ahuja, CHSPR; Kimberlyn McGrail, Centre for Health Services and Policy Research, UBC; Michael Law, UBC; Ruth Lavergne, Simon Fraser University; Lucy Cheng, UBC Centre for Health Services and Policy Research; Morris Barer, School of Population and Public Health, University of British Columbia

## *Socio-economic disparities in rates of hospital harm in Canada*

Mr. Viachaslau Herasimovich, CIHI

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Hospital Harm indicator was developed as a measure of patient safety in hospitals. It identifies harm events that could potentially have been prevented had known, evidence-informed practices been used. The objective of this work is to explore socio- economic disparity in rates of hospital harm and mortality among these patients.

**Approach:** The Discharge Abstract Database for fiscal year 2018-2019 was used for this analysis. Harm event was defined as an occurrence of hospital harm from one of the 31 clinical groups that fall under 4 categories. Socio-economic status was assessed using neighbourhood income quintiles, which were constructed according to methods developed by Statistics Canada. In-hospital mortality for patients who experienced a harm event was ascertained within the same hospitalization. Disparity rate ratio (DRR) was calculated as a ratio of the rate for the least affluent neighbourhood income quintile (Q1) to the rate for the most affluent neighbourhood income quintile (Q5).

**Results:** In 2018-2019 more than 132,000 patients experienced harm during acute care hospitalization in Canada (outside Quebec). Crude rate of hospital harm by income quintiles ranged from 5% in Q4 to 5.6% in Q1, with DRR=1.1. Disparity rate ratio was the largest within the harm category of Patient Accidents (DRR=1.5) and the smallest among patients with Procedure-Associated Conditions (DRR=0.9). Crude mortality rate among all patients who experienced harm ranged from 12.6% (Q4) to 14.1% (Q1) (DRR=1.1). The largest DRR (1.24) for mortality was observed among patients with Procedure-Associated Conditions. This disparity ratio was mostly driven by mortality among patients who experienced Laceration/Puncture (DRR=1.5) and Patient Trauma (DRR=1.3).

**Conclusion:** This analysis identified socio- economic disparities in the patient safety domain of the health care system. There is some evidence that occurrence of harm and subsequent mortality is higher among patients from the least affluent neighbourhoods. More research is required to further understand these differences.

**Author Names:** Viachaslau Herasimovich, CIHI; Yana Gurevich, CIHI



## *Mental Health, Workplace Mistreatment, Policy Awareness and Training, and Intent to Leave among Nurses*

Dr. Aynsle Hinds, Institute of Urban Studies, University of Winnipeg

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Healthcare is increasingly recognized as a “hot-spot” industry for workplace ill-treatment. Despite growing research on nurses’ work mistreatment (including bullying), few studies have examined mental health, policy awareness and training, and intentions to leave (facility, practice setting, position) in this context. We partnered with a Canadian organization representing nearly all provincial nurses to examine these interrelationships. The goal of this research is to inform their intervention and prevention initiatives.

**Approach:** All active members of the nurses’ organization were invited to participate in an anonymous online survey. Participants completed the Negative Acts Questionnaire to assess the range and frequency of negative work experiences and they disclosed whether they had been a target and/or an observer of bullying using a definition provided. Additionally, they indicated: whether they were aware and had been trained on respectful workplace and violence prevention policies; were intending to leave their position, practice setting, and facility; and completed the Mental Health Continuum’s “flourishing” index. Comparisons of group means and cross tabulation analyses were conducted.

**Results:** Just over 2,500 licensed practical nurses, registered nurses, nurse practitioners, registered psychiatric nurses, and operating room technicians responded, providing 1,330 usable responses. Intentions to leave the facility, practice setting, and position were significantly stronger for targets and observers of bullying compared to those without such experiences. Greater policy awareness and training were associated with lower levels of bullying and negative acts and with higher flourishing rates. In particular, higher flourishing was significantly associated with respectful workplace policy training. Violence prevention policy awareness and training showed significant protective effects from bullying. Participants aware of and trained on this policy were least likely to say they were bullied, while those aware but untrained and those unaware and untrained were equally less likely to say they were bullied.

**Conclusion:** Policy awareness and training may reduce mistreatment and buffer against decrements to mental health regardless of mistreatment experiences. As regulatory requirements for psychological safety at work increase, policy and training are important levers to improve wellbeing, work experiences, and staffing stability for nurses.

**Author Names:** Aynsle Hinds, Institute of Urban Studies, University of Winnipeg; Karen Harlos, University of Winnipeg; Cassandra Montanino, University of Winnipeg; Bridget Whipple, Manitoba Nurses Union; Wendy Josephson, University of Winnipeg

*Linking theory, methodology, and data sources to study the influence of the social determinants of health: Proposing an approach to studying access to home and community care in Ontario*

Dr. Sophie Hogeveen, Women's College Hospital

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Access to home care and community support services (HC/CSS) is vital for individuals with complex needs in the community; however, there is a knowledge gap in understanding access to these services, particularly when considering social determinants. This presentation proposes an approach to better understand realized access to HC/CSS and the role of social determinants. It provides an overview of the methodological aspects of this study, including a description of unique data sources.

**Approach:** We describe a retrospective observational study using health administrative data. The Behavioural Model of Health Services Utilization framed the selection of predisposing, enabling, and need variables that contribute to access to care. Data sources from the Institute for Clinical Evaluative Sciences (IC/ES) were identified. Other relevant data sources were identified through an environmental scan and by speaking to experts within the HC/CSS sectors. Where possible, data will be compiled and linked at IC/ES. Client profiles will be created for each sector. Multi-level modelling will be used to explore social determinants (individual and contextual) of access.

**Results:** Multiple underutilized data sources at the city and provincial levels have been identified that could potentially be used to examine social determinants of health and other factors related to HC/CSS access, including resources from the City of Toronto Open Data Portal, Toronto 211, Community Business Intelligence (CBI), Ontario Marginalization Index, and others. Once the data are compiled and analyzed, significant overlap is expected between client profiles in HC/CSS sectors. It is anticipated that social determinants will be identified that predict access to care, after controlling for medical complexity.

**Conclusion:** Several underutilized data sources exist that may be valuable in exploring the influence of social determinants on access to HC/CSS. This approach will provide a better understanding of the HC/CSS sectors in Ontario and disparities in access to care. Findings from this study can inform future health system planning.

**Author Names:** Sophie Hogeveen, Women's College Hospital; Suman Budhwani, Women's College Hospital Institute for Health System Solutions and Virtual Care; Dara Gordon, Women's College Hospital Institute for Health System Solutions and Virtual Care ; Simone Shahid, Women's College Hospital Institute for Health System Solutions and Virtual Care; Tyla Thomas-Jacques, Women's College Hospital Institution for Health System Solutions and Virtual Care; Jay Shaw, Women's College Hospital

## *Emergency department use and migration patterns of people experiencing homelessness in Ontario, Canada*

Dr. Rahat Hossain, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Understanding how people experiencing homelessness interact with the health care system can be challenging. Previous efforts have used self-report, geographically-limited administrative data, and select samples (e.g., shelter residents). It appears likely that a large proportion of people experiencing homelessness (and their patterns of health care usage) are not represented in current evidence. We used provincial administrative health data to understand migration patterns between emergency departments for people experiencing homelessness to better characterize health care use.

**Approach:** We used routinely-collected administrative health data from the Institute for Clinical Evaluative Sciences (IC/ES) to analyze ambulatory care records from 2010 to 2017 for people experiencing homelessness in Ontario, Canada. Records from the National Ambulatory Care Reporting System and OHIP Registered Persons Database were accessed. Homelessness was identified using a postal code identifier collected at registration during emergency department visits. We then used a network analysis to identify high impact emergency department nodes and discrete hospital networks where people experiencing homelessness congregate. Network edges represented patients presenting at one site and then presenting to another at a later date.

**Results:** We found a total of 640,897 visits to emergency departments in Ontario between 2010 - 2017 by people experiencing homelessness. Aggregating results to the level of the Local Health Integration Networks (LHINs) to maintain privacy, the three most frequently visited regions were the Toronto Central (35.96%), Hamilton Niagara Haldimand Brant (HNHB) (8.9%), and Champlain (7.84%) LHINs. The majority of patients presented to different emergency departments during subsequent visits, although a subgroup exists which presents to the same site. Toronto Central was found to be the central hub for migration. The Toronto Central LHIN was more connected to the HNHB LHIN as compared to the Mississauga Halton LHIN despite further geographical distance. Network analysis demonstrates that the frequency of migration has been increasing over time.

**Conclusion:** Our results suggest opportunities to enhance care coordination for people experiencing homelessness, including targeting appropriate regions and ensuring that care is not curtailed despite frequent out-migration. Further analysis may reveal underlying reasons for increasing migration over time and variable needs between those who migrate and those who stay fixed.

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*Physician care at the end of life: Describing volume and mix of physician care using health administrative data in Ontario, Canada.*

Dr. Michelle Howard, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** In Canada, there is no universal model of physician care for patients near the end of life. Physician care in the community is likely to be provided by a mix of different specialties. The objective of this study was to describe the volume and mix of physician care in the last year of life across different end-of-life trajectories.

**Approach:** We conducted a retrospective study using population-based health administrative databases in Ontario, Canada. Data holdings include a comprehensive set of healthcare sectors, linked individually using uniquely encoded identifiers and analyzed at ICES. We studied a cohort of 374,388 decedents aged 18 years or older who died between January 1, 2013, and December 31, 2016. We categorised decedents by the major trajectories of functional decline at the end of life, defined by main cause of death (i.e., terminal illness, organ failure, frailty, sudden death/other). Patterns of outpatient encounters with family physicians and specialists over the last year of life are described.

**Results:** The average age of decedents was 77.1 years, 49.8% were female and had a mean of 4.2 chronic conditions. The distribution of illness trajectories was 28.5% terminal illness (mainly cancer), 33.8% organ failure, 27.0% frailty and 10.7% sudden death or other. Family practice had the greatest mean number of visits (10.6). Among those with any visits, the specialists with the next highest mean visits were medical oncology (6.4), haematology (5.2), psychiatry (3.8), and therapeutic radiology (3.7) most of which were driven by the terminal illness trajectory. For family physician billings, the mean number per month increased from 2.3 twelve months before death, to 7.0 in the last month of life, with a two-fold difference between the lowest (frailty) and highest (terminal) trajectories.

**Conclusion:** Patients have many physician encounters across specialties in the last year of life, especially those with a terminal/cancer illness trajectory. Visits to family physicians increase substantially towards end of life. This study contributes to understanding physician resource use at the end of life care in one province of Canada.

**Author Names:** Michelle Howard, McMaster University; Abe Hafid, McMaster University; Peter Tanuseputro, Bruyère Research Institute & Ottawa Hospital Research Institute; Sarina Isenberg, Temmy Latner Centre for Palliative Care, Sinai Health System ; Amy Hsu, Bruyère Research Institute; Mary Scott, Ottawa Hospital Research Institute; Colleen Webber, Ottawa Hospital Research Institute; Katrin Conen, McMaster University

## *The impact of varying levels of palliative care intensity on costs during terminal hospitalizations in Canada from 2011-2015*

Dr. Sarina Isenberg, Temmy Latner Centre for Palliative Care, Sinai Health System

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Inpatient palliative care is associated with lower inpatient costs. There has yet to be a national analysis on the levels of palliative care provided in inpatient settings and the cost impact of receiving palliative care. Using a cohort of Canadians who died in hospital, our objectives were to: describe patients' receipt of palliative care and invasive procedures in their terminal admissions; and examine the relationship between terminal hospitalizations with and without palliative care and costs.

**Approach:** National cohort study using data from the Discharge Abstract Database in Canada between 2011 and 2015. Receipt of palliative care was defined as: high (if most responsible physician (MRP) and most responsible diagnosis (MRDx) are palliative care), medium (one of MRP or MRDx), low (palliative care as non-primary diagnosis), or no palliative care. Outcome was acute care costs in the terminal hospitalization (in 2014 Canadian dollars). Descriptive statistics were represented as mean (SD) and n(%). We modelled cost as a function of palliative care plus other covariates using a gamma generalized estimating equation (GEE) model, accounting for clustering by site/hospital.

**Results:** There were 250,640 adults who died in hospital: Mean age was 76.1 (SD 13.8), 47% were female, 20% were rural, and 47% were from Ontario. Average length of stay in their terminal hospitalization was 16.1 days (SD 22.6). Of the decedents, 174,960 had no inpatient palliative care involvement, 16,259 received low palliative care involvement, 58,936 received medium palliative care involvement, and 485 received high palliative care involvement. 19% received high cost surgery, 21% received mechanical ventilation, 5% received CPR, and 26% received any active intervention. Controlling for age, gender, province and comorbidities, the cost of a terminal hospitalization was: \$21,843 (CI \$21,235-22,469) (no involvement), \$16,651 (CI \$15,914-17,424) (low involvement), \$11,867 (CI \$11,335-12,424) (medium involvement), and \$8,591 (CI \$6,547-22,275) (high involvement).

**Conclusion:** We observe a dose-response relationship between palliative care intensity and costs. The decrease in costs is likely related to shorter hospital stays and less active interventions as the level of palliative care increases. Future analyses will investigate hospitalizations in the last year of life and costs across the health system.

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## *Assessing the value of metabolic chart data for capturing core outcomes for pediatric medium-chain acyl-CoA dehydrogenase (MCAD) deficiency*

Mr. Ryan Iverson, University of Ottawa

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**Category:** Oral Presentation

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Generating rigorous evidence to inform care for rare diseases requires reliable, sustainable, and longitudinal measurement of priority outcomes. We have developed a core outcome set for children with the rare inherited metabolic disease, medium-chain acyl-CoA dehydrogenase (MCAD) deficiency. To assess the feasibility of future measurement of core outcomes prospectively during routine metabolic clinic visits, we used existing cohort data to investigate the frequency of clinic visits and quality of metabolic chart data for selected outcomes.

**Approach:** We used longitudinal data abstracted from the metabolic charts of 124 children diagnosed with MCAD deficiency who participated in a Canadian retrospective cohort study collecting data from birth to a maximum of 11 years of age. We described the frequency of opportunities to record outcomes from the clinical chart based on the rate of visits to the metabolic clinic, overall and by disease severity, treatment centre, and child age. We applied a data quality framework to evaluate chart data capturing three core outcomes based on completeness, conformance, and plausibility: emergency department use, recommended fasting tolerance, and episodes of metabolic decompensation.

**Results:** The frequency of metabolic clinic visits decreased with increasing age, from a rate of 2.8 visits per child per year among infants <6 months, to 1.0 visit per child per year among those  $\geq 5$  years of age. Visits were more frequent for children with severe disease. Rates of emergency department visits were lower than expected but followed anticipated trends by child age and severity. Supplemental findings suggested that some emergency visits occurring outside of the treatment centre from which routine metabolic care was received were likely not recorded. Recommended fasting times were updated relatively infrequently in patients' charts. Episodes of metabolic decompensations were identifiable but required an operational definition based on acute manifestations most commonly reported in the clinic chart (e.g., hypoglycemia with lethargy).

**Conclusion:** Based on visit frequency, opportunities to record core outcomes at the metabolic clinic occur at least annually for children with MCAD deficiency. Methods to identify emergency services received at outside institutions may be needed. Improved reporting standards are required to promote consistent documentation of recommended fasting duration and metabolic decompensations.

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## *Using machine learning to measure specialist wait times from family physicians' electronic medical records linked to administrative data*

Dr. Liisa Jaakkimainen, ICES

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Reliable information about the time spent waiting for health care services is a critical metric for measuring health system performance. Wait times are a useful measure of access to various health care sectors. With the emergence of research using family physician (FP) electronic medical record (EMR) data is the challenge of using information in an unstructured, free-text format. Our objective was to identify the target specialist physician type from the EMR FP referral note.

**Approach:** We used FP EMR data held at ICES and linked to Ontario health administrative data (EMRPC). EMRPC collects the entire clinical record from patients including the content of a referral note prepared by the FP. We used machine learning (ML) methods to identify the type of specialist physician in which the referral was intended. Labels to test the ML methods were created from the specialist code found in the specialist physicians' claims data. Wait times to see a specialist physician were calculated from the FP EMR referral date to the specialist physician consultation claims date in administrative data.

**Results:** Using EMRPC data from 2016, our ML models' ability to classify FP EMR referral notes to selected medical and surgical specialist physicians achieved sensitivity and positive predictive values ranging from the high 70s to low 80s.

Compared to previous analyses using EMRPC data from 2008, we observed a stable relative ordering to see specific specialist physicians with regards to both median wait times and 75th percentile wait times. Further analysis revealed that, overall, the median wait times has increased by 14 days on average, with a maximum increase of 28 days to see a gastroenterologist. A similar trend of increasing primary care wait times was seen in all medical and surgical specialties, except for psychiatry which saw a 25% decrease (about 60 days).

**Conclusion:** The accuracy of ML using unstructured EMR data is high thereby allowing timely results at a lower cost and larger scale. From a primary care perspective, this information can help inform decision makers and providers about which patients or FP practices are experiencing long wait times in seeing specialist physicians.

**Author Names:** Liisa Jaakkimainen, ICES; Mohamed Abdalla, University of Toronto; Hong Lu, Institute for Clinical Evaluative Sciences; Bogdan Pinzaru, Institute for Clinical Evaluative Sciences

## *Association between the house call practice patterns of primary care physicians and use of hospital-based care among older adults with functional impairments*

Mr. Aaron Jones, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** While research indicates that home-based primary care interventions can reduce hospital based-care among homebound older adults, there have been no studies examining the house call practice patterns of primary care physicians and use of hospital-based care by their patients. The objective of this study is to determine whether higher provision of house calls by primary care physicians is associated with reduced emergency department visits or hospital admissions within community-dwelling older adults with functional impairments.

**Approach:** We conducted a population-based retrospective cohort study of home care patients with extensive functional impairments in Ontario, Canada from 2014 to 2016. Physician provision of house calls was categorized into none, lower, or higher groups based on the proportion of visits that were house calls in a year. We used multilevel cox regression models to examine associations between the provision of house calls by a patient's primary care physician in the year before a home care assessment and emergency department visits and hospital admissions over the subsequent six months, controlling for confounding on the patient and physician level.

**Results:** The cohort contained 49,352 patients, with a median age of 85. Over half (52%) visited the emergency department and 34% had a hospital admission within the six-month follow-up. Patients were linked to 8,289 unique primary care physicians. Within physicians, the mean proportion of all visits that were house calls were 0%, 0.1%, and 1.5% percent in the none, lower, and higher groups respectively, with a median annual count of house calls of 0, 9 and 97.

Patients whose physicians provided higher levels of house calls had a reduced risk of an emergency department visit (HR: 0.94 (95% CI: 0.91-0.97) and a reduced risk of a hospital admission (HR: 0.91 (95% CI: 0.88-0.95)) vs. patients whose physicians did not offer house calls.

**Conclusion:** Higher provision of house calls by primary care physicians was associated with reductions in emergency department use and hospital admissions among community-dwelling older adults with functional impairments. Expansion of house calls could reduce use of hospital-based care and help community-dwelling older adults to age safely and well at home.

**Author Names:** Aaron Jones, McMaster University; Andrew Costa, McMaster University; Susan Bronskill, ICES; David Feeny, McMaster University; Hsien Seow, McMaster University; Lauren Lapointe-Shaw, University of Toronto



# *Impact of an interprofessional team-based care program on the health care utilization of patients with complex health and social needs*

Ms. Sydney Jopling, University of Toronto, Institute of Health Policy, Management and Evaluation

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Interprofessional team-based primary health care has been shown to improve health outcomes and decrease acute health care utilization for patients with complex health and social needs. TeamCare encompasses several programs designed to improve access to team-based care for complex patients that have been implemented through Community Health Centres (CHCs) in Ontario. The objective of this study is to analyze the impact of participation in Teamcare on patient health care utilization.

**Approach:** The study used electronic health record data from CHCs linked with administrative data from ICES for fiscal years 2013-2016. Patients with a date of first TeamCare encounter at a CHC in fiscal year 2015 were selected to allow for a 2 year lookback period and a minimum 1 year follow-up period. A modified difference-in-differences approach using fixed and random effects models and a propensity score-matched control group was employed to analyze the impact of participation in TeamCare on non-urgent emergency department (ED) visits, ED visits not resulting in hospitalization, primary care physician visits, and specialist visits.

**Results:** 695 patients participated in TeamCare between April 1, 2015 and March 31, 2016. Following matching with a 98% matching rate, the TeamCare and control groups each contained 683 individuals with balanced sociodemographic and socioeconomic characteristics and comorbidity burden.

TeamCare was associated with a relative increase in primary care visits compared to the control group for the post- versus pre-intervention periods. We did not find a significant association between TeamCare and non-urgent ED visits, ED visits not resulting in hospitalization, or specialist visits.

**Conclusion:** TeamCare did not have a meaningful impact on the utilization of formal healthcare services for patients enrolled in 2015. Further research should investigate impacts on intermediate outcomes for patients. The results of this study and continued research will inform efforts to expand access to interprofessional team-based primary care in Ontario.

**Author Names:** Sydney Jopling, University of Toronto, Institute of Health Policy, Management and Evaluation; Walter Wodchis, University of Toronto; David Rudoler, University of Ontario Institute of Technology; Jennifer Rayner, Association of Ontario Health Centres

## *Human Resource Planning to Support Health Equity*

Dr. Alan Katz, University of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Background and objectives (75-word limit);

There is considerable interest in health human resource (HHR) planning to support health equity at the local, provincial, national and international levels. Effective planning starts with evidence based projections of the HHR needed to meet population health service requirements.

Objectives: To validate the primary care provider predictive models published in 2009

To describe changes in provider characteristics to support provider projections

To update the projections and provide results by health region

**Approach:** Population based study using administrative claims data held in the Manitoba Population Research Data Repository. We validated the population age and sex distribution projections developed by the Manitoba Bureau of Statistics in 2005 by comparing the projections with the actual population in 2018. We compared service provision in 2018 with the projected service requirements, based on the 2005 modelling on 20 years of service use. Service projections are based on population age and sex specific use patterns. Service needs up to 2025 were calculated by health region to facilitate local planning.

**Results:** The fifteen-year population projections were reasonably accurate, but growth exceeded expectation resulting in the projected 2020 population being realized in 2018. The provincial service use in 2018 was within 1.6% of the projected service needs. The 5-year primary care provider projection for 2018 was 1832 providers, 1.8% higher than the 2018 observed number of providers. Provider characteristics have shifted since 2005 to a more balanced sex distribution with fewer services per provider. Based on these findings, we projected a 12% increase in service needs and providers in Manitoba from 2018 to 2025. Analyses based on where patients access care compared to where they live resulted in considerable variability; up to 48% difference.

**Conclusion:** The 2009 projection models are a valid, alternative approach to primary care HHR projection. There has been a shift in provider demographics which has influenced provider requirements. The inclusion of both patient and provider demographics (age and sex) in the models represent a novel approach to HHR projection.

**Author Names:** Alan Katz, University of Manitoba; Carole Taylor, Manitoba Centre for Health Policy, University of Manitoba; Ina Koseva, Manitoba Centre for Health Policy; Dan Chateau, Manitoba Centre for Health Policy, University of Manitoba

*Women Discharged from Inpatient Cardiology Units Report a Worse Experience: Results from Four Years of Survey Data*  
Mr. Kyle Kemp, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** When compared with their male counterparts, women with cardiovascular disease experience disparities in the diagnosis, treatment, and ongoing management of their condition. It is unknown, however, whether sex differences exist with respect to one's in-hospital patient experience (i.e. patient-reported feedback about care processes and perceived quality of care). Using validated surveys, our objective was to examine the experience of patients discharged from cardiology units in two urban hospitals in Alberta, according to sex.

**Approach:** Patients completed the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) via telephone within 6 weeks of discharge. Surveys and administrative records were linked to determine study eligibility. We examined 32 individual questions and 4 rating scales. Individual questions pertained to specific processes (e.g. how often nurses explained things in a way you could understand, how often your pain was well controlled), while rating scales asked respondents about their overall care, and their willingness to recommend to hospital to friends/family. Survey responses were reported as percent in “top box”, as represented by the most positive answer choice to each question.

**Results:** From April 2014 to March 2018, 2,776 surveys (942 females, 1,834 males) were completed across the five inpatient cardiology units studied. Female respondents had lower “top box” response percentages on all 36 questions studied. The largest differences observed were for questions that pertained to being told about possible side effects of new medications (36.8% of females vs. 51.6% of males responded “always”), cleanliness of the hospital room/bathroom (47.3% vs. 61.0% responded “always”), and getting enough information about your condition and treatment while in the emergency department (46.2% vs. 59.2% responded “completely”). Women reported a lower overall hospital experience (mean score of 8.7 vs. 9.0 [out of 10]) and were also less likely to “definitely” recommend the hospital to friends and family (75.3% vs. 84.1%).

**Conclusion:** According to The Heart and Stroke Foundation, nearly 80% of women miss warning signs of heart events because of inequities and biases in the healthcare system. In stratifying inpatient experiences by sex, this study provides evidence to suggest that these inequities and biases may also be reflected in inpatient care.

**Author Names:** Kyle Kemp, University of Calgary; Hude Quan, University of Calgary; Colleen Norris, University of Alberta; María José Santana, Cumming School of Medicine, university of Calgary

## *Measuring the Mix and Complexity of Patient Needs to Guide the Deployment and Design of Primary Care Teams*

Dr. George Kephart, Community Health and Epidemiology, Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Our understanding of how well attributes of primary care teams align with patient needs across diverse practice and community settings is limited. A better understanding of patients' physical, mental and social needs should inform the deployment and design of teams. Our objectives were to: (1) Define practical needs-based population segments to support planning and quality improvement for teams; (2) Describe and compare the patient "mix" in need-based segments across teams and communities in Nova Scotia.

**Approach:** Administrative health data for all Nova Scotians aged 30 and over was used to measure physical multimorbidity (number of major physical chronic conditions), poverty (enrollment in low income drug programs), and mental illness (use of health services for mental illness) over 5 years prior to the establishment of most primary care teams (2012–2017). Segment development was informed by qualitative work and modeling the effects of physical multimorbidity, poverty and mental illness on healthcare costs. Persons attached to primary care teams or other primary care as of 2019 were classified into segments, and were attached to communities using postal codes.

**Results:** Five need segments ranging from low to high complexity, based on the combination of physical multimorbidity, mental illness and poverty were developed. The combination of poverty and mental illness had as large an association with costs as physical multimorbidity, and played a central role in defining segments. Increased complexity was associated with a doubling of health costs between each segment. The mix of patients in primary care teams was, overall, slightly more complex compared to patients in other types of primary care. Teams and communities were highly variable in the complexity mix of their patients, both ranging from about 10% to 35% of their patients in the two highest need segments. While we can describe this heterogeneity, the reasons for it are unknown.

**Conclusion:** Optimal deployment, design and evaluation of primary care teams cannot adopt a one-size fits all approach, as teams and communities are highly variable in the mix of need segments they are supporting. Social and mental health needs are critical considerations in planning for patient care in primary care teams.

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*The Relative Effects of the Quantity Versus Quality of Primary Care Teams on Potential Reductions in Hospitalization Costs*  
Dr. George Kephart, Community Health and Epidemiology, Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Nova Scotia, like many provinces, has been increasing the number of primary care teams. The minimum standard for teams is three healthcare providers and two professions working collaboratively. Most do not substantially exceed this standard, and are diverse in patient composition by complexity of needs. Our objective was to assess whether enhancement of needs-based collaboration and integration of care of existing teams should be prioritized over increasing the number of teams in reducing hospitalization costs.

**Approach:** Simulations compared the impact of enhancing needs-based collaboration and integration of care among existing teams, versus adding new teams on hospitalization costs for Nova Scotians aged 30 and over, stratified into population need-segments based on multimorbidity, poverty and mental illness. Population need-segments, receiving care from a team, and hospitalization costs were obtained from administrative health data. Potential reductions in hospital costs for each scenario was obtained from review of research literature. The current distribution of teams by level of needs-based collaboration and integration of care was obtained from expert opinion, informed by descriptive team data and detailed qualitative data.

**Results:** The simulations showed that enhancing the development of needs-based collaboration and integration of care among patients in existing teams, along the lines of the Patient Centred Medical Home model, will yield greater cost savings than adding more teams using current approaches. The marginal effects of enhancing the needs-based collaboration and integration of care of existing teams yielded consistently and substantially larger cost reductions than the marginal effects of increasing the number of patients cared for by teams. Potential reductions in hospitalization costs are greater if team-based care is targeted to caring for patients with more complex needs. This is amplified if, as shown in a number of studies, the effectiveness of medical homes is greater for patients with more complex needs.

**Conclusion:** Enhancing needs-based collaboration and integration of care among implemented teams should be prioritized. Continuing to add teams, without focusing on their development and quality improvement, may limit the potential for reducing hospitalizations and associated costs. The design and deployment of teams should emphasize care for patients with more complex needs.

**Author Names:** George Kephart, Community Health and Epidemiology, Dalhousie University; Prosper Koto, Research Methods Unit, Nova Scotia Health Authority; Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology; Alysia Robinson, Dalhousie University, Department of Community Health and Epidemiology; Frederick Burge, Dalhousie Family Medicine; Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority; David Stock, Maritime SPOR SUPPORT Unit; Daniel Marsh, Nova Scotia Health Authority; Ruth Martin-Misener, Dalhousie University; Brian Condran, Dalhousie University School of Nursing; Gail Tomblin Murphy, Nova Scotia Health Authority; Tom Marrie, Nova Scotia Department of Health and Wellness

## *Stakeholders' experiences with the evidence aid website to support 'real-time' use of research evidence to inform decision-making in crisis zones: a user testing study*

Mr. Ahmad Firas Khalid, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Humanitarian action in crisis zones is fraught with many challenges, including lack of timely and accessible research evidence to inform decision-making about humanitarian interventions. Evidence websites have the potential to address this challenge. Evidence Aid is the only evidence website designed for crisis zones providing research evidence in the form of systematic reviews. The objective of this study is to contribute further to our understanding of the use of research evidence in crisis zones

**Approach:** We designed a qualitative user-testing study to collect interview data from stakeholders about their impressions of Evidence Aid. Eligible stakeholders included those with and without previous experience of Evidence Aid. All participants were either currently working or have worked within the last year in a crisis zone. Participants were asked to perform the same user experience-related tasks and answer questions about this experience and their knowledge needs. Data were analysed using a deductive framework analysis approach drawing on Morville's seven facets of the user experience — findability, usability, usefulness, desirability, accessibility, credibility and value.

**Results:** A total of 31 interviews were completed with senior decision-makers (n = 8), advisors (n = 7), field managers (n = 7), analysts/researchers (n = 5) and healthcare providers (n = 4). Participant self-reported knowledge needs varied depending on their role. Overall, participants did not identify any 'major' problems (highest order) and identified only two 'big' problems (second highest order) with using the Evidence Aid website, namely the lack of a search engine on the home page and that some full-text articles linked to/from the site require a payment. Participants identified seven specific suggestions about how to improve Evidence Aid, many of which can also be applied to other evidence websites.

**Conclusion:** Stakeholders in crisis zones found Evidence Aid to be useful, accessible and credible. However, they experienced some problems with the lack of a search engine on the home page and the requirement for payment for some full-text articles linked to/from the site.

**Author Names:** Ahmad Firas Khalid, McMaster University; John Lavis, McMaster University; Meredith Vanstone, McMaster University; Fadi El-Jardali, American University of Beirut

*Patient-oriented research for development and pilot-testing of an instrument to measure out-of-pocket costs and time/productivity losses related to accessing surgical services in rural British Columbia (work-in-progress)*

Dr. Asif Raza Khawaja, UBC

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The attrition of small volume surgery programs in rural British Columbia (BC) has major implications for the socio-economic wellbeing of families. There is a lack of empirical evidence on the nature and extent of costs downloaded to patients and families for accessing surgical services away from their local community. This study aimed to develop and pilot-test an instrument to measure out-of-pocket (OOP) costs and time/productivity losses for accessing surgical services in rural BC.

**Approach:** A patient-oriented research project with four patient partners, including one Indigenous partner, from four rural BC communities, is underway. Guided by the Patient-Centered Outcomes Research Institute's framework, patient partners are involved in the continuum of research (i.e., co-design, co-analysis, and co-facilitation). In Phase 1, five qualitative focus groups (FGs) and seven individual interviews were conducted with patients, and family members (n = 37). Thematic analysis was performed in QSR NVivo. A provincially-administered survey pilot-test is in-progress. Subsequently, patient partners will co-facilitate workshops with community members to validate findings and prioritize the focus of knowledge translation activities.

**Results:** Almost all participants in the FGs and interviews reported a large burden of OOP costs and psychosocial stress/anxiety of leaving the home community for accessing surgical services. Key cost drivers included travel, accommodation, communication, food, and lost wages. A 66-item, self-completed OOP costs survey questionnaire was developed based on themes/sub-themes from Phase 1. The survey questions are based on the recall period starting from the surgical consult to 3 months post-procedure. Preliminary analysis of pilot-test data indicated an average of 23 minutes to complete the questionnaire and achieved over 90% completion rates (n=40 out of 43 total participants). A review of narrative comments, as well as discussions with patient partners, revealed that the questions in the survey are comprehensive and comprehensible.

**Conclusion:** Patient partners played a crucial role in confirming appropriate categories for measuring of costs. This study will strengthen the policy argument for bridging service delivery gaps and providing care closer to home in rural BC. More research is needed to evaluate the external validity of this instrument in other settings.

**Author Names:** Asif Raza Khawaja, UBC; Anshu Parajulee, University of British Columbia ; Eva Sullivan, UBC ; Dorothy Egan, Centre for Rural Health Research UBC; Marjorie Dunnebacke, Centre for Rural Health Research UBC ; Mickey Balas, Centre for Rural Health Research UBC; Peggy Christianson, Centre for Rural Health Research UBC; Jude Kornelsen, UBC

# *Measuring Patient-Physician Attachment in Administrative Databases: Comparing Standard Approaches to Novel Measures Using Machine Learning*

Ms. Caroline King, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Patients' relationships with, and attachment to, primary care physicians can influence patients' care experience, continuity of care and health outcomes. Capturing patients' perspectives on attachment to a physician is challenging in health administrative data (HAD) given the absence of patient-reported experiences. We used linked Quebec HAD-Canadian Community Health Survey (CCHS) data and developed a patient-centered measure of attachment using machine learning techniques that can be measured in HAD alone.

**Approach:** We identified important predictors in Quebec HAD to answering 'yes' to the CCHS question 'Do you have a regular medical doctor?' using Random Forests (RF), a machine learning technique, and logistic regression. Our patient and clinician stakeholders helped inform how we constructed the predictors in the HAD (feature engineering), in addition to using predictors already well-described in the literature (i.e., physician that bills the majority of services). We compare our new measure to the conventional HAD attachment measure of usual provider of care (UPC) using sensitivity, specificity, overall predictive accuracy and model parsimony.

**Results:** We created several models to identify attached and unattached patients. Overall accuracy of predicting whether a patient was attached was 83.5% in the RF model and 87.8% in the logistic. Sensitivity and specificity was 85% and 71% respectively for the RF model and 90% and 63% for the logistic. In contrast, UPC had an accuracy of 33.5%, sensitivity of 28% and specificity of 61%. Our results suggest that using additional information available in HAD can improve the identification of attached and unattached patients. The most important predictors in RF, measured using minimum variable depth, fidelity, multiple provider continuity, and UPC. For logistic regression, we used beta weights to rank variable importance and found fidelity, rurality, and age to be most important.

**Conclusion:** We have taken a novel approach to measuring patient-physician attachment in HAD using machine learning to identify predictors of patient-reported attachment and rank which of those predictors are most important. This is a useful first-step to understanding how patients conceptualize attachment to physicians using quantitative data.

**Author Names:** Caroline King, McGill University; Erin Strumpf, McGill University



## *Advancing Health Equity in First Nations Communities: Bridging the Gap through Relationships*

Mrs. Stephanie Kornad, Wellness Wheel, SHA

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**Category:** Oral Presentation

**Primary Theme:** Indigenous Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Indigenous peoples across Canada experience significant health inequities.(1) While these disparities are rooted in the historical colonization and assimilation of Indigenous people, healthcare services have not adjusted to meet the unique challenges Indigenous people face such as distance, lack of healthcare services and lack of trust in the western healthcare system. Addressing these inequities requires proportionate universalism with targeted interventions at a higher level of intensity, proportionate to need and level of disadvantage.

**Approach:** Wellness Wheel (WW) is a community-led mobile outreach program operating through health centers in First Nation communities or rural care centers bringing care directly to community. WW teams travel from Regina to communities, providing 1-2 clinic days per community, per month. Services include primary and specialist care (dermatology, internal medicine, nephrology, infectious diseases), on-the-spot referrals, phlebotomy, health promotion, and complex chronic conditions management. Guided by the Truth and Reconciliation Commission's Calls to Action, WW is based on a respectful partnership between communities and healthcare providers. Culturally safe care is provided integrating Indigenous and Western ways of knowing.

**Results:** Initiated in 2016, WW commenced with 20 clinics across four communities. Through relationship building and developing trust, the clinics have steadily grown in these first four communities by 255%, from 20 clinics in 2016/17 to 71 in 2018/19. In 2018, clinical staff travelled 80,000 km with 1032 patient visits. WW now serves 11 First Nation communities. WW has demonstrated commitment to communities it serves by respecting and implementing OCAP® principles of data management, through delivery of uninterrupted primary and specialist clinical care beginning in 2016, and through recognition that WW began with community members' advocacy for improved in-community care, and with support of local leadership, Chief and Councils.

**Conclusion:** WW is a unique model of care, providing equitable access to care, addressing challenges such as transportation and limited rural and Indigenous healthcare expertise while also providing culturally responsive care. WW is advancing health equity by bridging gaps between patients and providers, and communities and western healthcare services.

**Author Names:** Stephanie Kornad, Wellness Wheel, SHA; Mamata Pandey, Saskatchewan Health Authority; Susanne Nicolay, Wellness Wheel; Stuart Skinner, Wellness Wheel & University of Saskatchewan; Val Desjarlais, Touchwood Agency Tribal Council

## *Evidence-Based System Interventions to Support Sustainable Rural Maternity Care*

Ms. Jude Kornelsen, UBC

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** The maternity care needs of rural women, their families and communities have been well documented in BC and elsewhere and include access to safe care as close to home as possible. There is also consolidated evidence on the health, psycho-social and cultural consequences of not providing care. However, there remains the need for policy development to build the infrastructure for sustainable care.

**Approach:** With funding from BC's Joint Standing Committee on Rural Issues, we documented and analyzed the system supports needed to sustain rural maternity care in low-volume settings without local access to caesarean section. We gathered data through interviews and focus groups from a case-study community (n=117) and from this, developed a series of "building blocks" to support sustainable rural maternity care. We did further interviews with key stakeholders in all other low-resources maternity services in BC and then, through a provincial consensus meeting, validated the findings and applied them at a provincial level.

**Results:** Building blocks to sustainable maternity care identified by health care providers and administrators include increased provider confidence (with a focus on nursing), the development of interprofessional health care teams, efficient emergency transport, appropriate inclusion criteria for local deliveries and strengthened relationships with regional referral services. These pragmatic solutions require system supports including a provincial strategy to provide a coherent plan for addressing the system wide challenges in providing maternity care services; the development of a system of accountability for maternity care at local and regional levels and service level targets for where maternity services should be supported based on an established and validated metric. In addition, a review of barriers and solutions to interprofessional is warranted.

**Conclusion:** Integrating evidence-based directions regarding sustaining rural maternity care into system solutions depends on alignment with provincial priorities and key stakeholders. Cross-provincial collaboration, including recognizing solutions from other jurisdictions, is an effective implementation strategy.

**Author Names:** Jude Kornelsen, UBC

# *Measuring early childhood malnutrition in Ghana: A comparison of estimates from the Demographic and Health Survey and Socioeconomic Panel Survey*

Dr. Paul Kuwornu, Saskatchewan Health Authority

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Early childhood malnutrition contributes to almost half (45%) of all deaths among children under 5 globally and has enduring negative consequences into adulthood. United Nation's Sustainable Development Goals (SDGs) expects all forms of malnutrition to end by 2030; but measuring progress towards the SDGs is challenging, particularly in developing countries where nationally-representative data is limited. The aim of this study was to compare the estimates of early childhood malnutrition using two data sources in Ghana.

**Approach:** Using data from the long-standing demographic and health surveys (DHS) and the emerging socioeconomic panel survey (SPS), we compared the prevalence of malnutrition using the composite index of anthropometric failure (CIAF) for the period 2008 (DHS) and 2009/2010 (SPS). Both surveys used a two-stage stratified sample design, with the main difference being the DHS is cross-sectional whilst the SPS is longitudinal. This study included data for children aged 6 to 59 months and calculated all anthropometric z-scores based on the WHO Growth Standards. We tested for differences in the patterns of malnutrition using two-group configural frequency analysis (CFA).

**Results:** Of the 2,088 (DHS) and 1,604 (SPS) children included in the study, the only demographic difference observed was the SPS children were about 6 months older than the DHS children (median age 36 vs 30 months, p-value < 0.001). The CIAF index sums all children who are a) wasted-only, b) stunted-only, c) underweight-only d) wasted-and-underweight, e) stunted-and-underweight, or f) stunted-wasted-underweight to estimate overall prevalence of malnutrition. The overall prevalence of malnutrition was higher among children in the SPS compared with those in the DHS (45.67, 95% CI: 42.10 – 49.23 vs 36.46, 95% CI: 33.71 – 39.21). However, the two-group CFA showed no differences between DHS and SPS in the prevalence patterns of four (a, b, c, and e) out of the six CIAF components.

**Conclusion:** Depending on the data source adopted, the prevalence of childhood malnutrition in Ghana falls between 36% and 46% in 2008/2010 period. Although the DHS is popular, the SPS provides a promising opportunity to measure incidence of malnutrition at a nationally-representative level; an indicator virtually non-existent in the developing world.

**Author Names:** Paul Kuwornu, Saskatchewan Health Authority

## *Development of a validated instrument to measure out-of-pocket costs: The Costs for Patients Questionnaire (CoPaQ)*

Dr. Maude Laberge, Université Laval

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** The growth of health care spending is a major concern for insurers and governments but also for patients whose health problems may result in costs that go beyond direct medical costs. The purpose of this study was to develop a comprehensive tool to measure direct and indirect costs of a health condition for patients and their families. The Costs for Patients Questionnaire (CoPaQ) was constructed to be generalizable to various outpatient contexts and countries.

**Approach:** First, we performed a systematic review of the literature to identify the cost items that could be included. Second, we conducted an online Delphi panel (nine patient-partners and six co-researchers) to determine the cost items to retain, and the wording of the questions. An iterative process with multiple rounds enabled achieving a strong consensus. Third, eighteen naïve participants were recruited for a test-retest of the questionnaire, in which the questionnaire was administered twice with a two-week delay but covering the same period. Intra-class correlation (ICC) and kappa coefficients were used to determine the rate of agreement.

**Results:** Each round of the Delphi panel incorporated feedback from the previous round until a strong consensus was achieved about the most important costs items and how the questions should be formulated. Consensus on some costs items was achieved early and other items were refined during the four iterative rounds of the Delphi to increase their understanding and reduce overlap between them. The results allowed to develop a questionnaire measuring costs for patients (CoPaQ). For the test-retest phase, Kappa coefficients (categorical variables) were ranging between -0.05 to 1.00 and ICC (continuous variables) were ranging between -0.02 to 0.99.

**Conclusion:** This study allowed prioritizing and establishing a list of costs items to be considered from the patient's perspective (i.e., patients and caregivers). Additional research concerning validity and psychometrics characteristics including a test-retest with a larger sample in a heterogeneous population will be part of a subsequent validation strategy.

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** In 2015, the Quebec government introduced a reform to restructure the health and social services network. With Bill 10, it forced the merges of health and social services organization, thereby reducing the number of health care organizations from 183 to 34. One of the main objectives was to improve efficiency with economies of scale. The objective of this study is to measure and compare the efficiency of health care organizations before and after the reform.

**Approach:** We estimated efficiency pre and post reform using the non-parametric method of Data Envelopment Analysis (DEA). The DEA enables to estimate the efficiency of each unit, establish benchmarks, and to determine the proportion of units that are fully efficient. First, we reviewed the literature to identify relevant inputs and outputs. Second, we extracted selected input and output data elements from organizational reports for the fiscal years 2014-2015 (pre-reform) and 2017-2018 (post reform). We conducted the analyses separately for each year and we tested with and without adjusting for mortality as an indicator of quality.

**Results:** In 2014-15, 14.81% of the units were efficient with a score of 1. The average efficiency was 57.90%, and it was 57.78% in 2017-18, a year in which 24.13% of the units scored 1. The average efficiency was 86.38% in the adjustment for mortality with 31.31% of efficient units scoring 1 in 2014-2015. The results show that the percentage of efficient hospitals after the health system reforms was improved, which represents 14.81% of the total in 2014-15, compared to 24.13% in 2017-18. However, these are preliminary results and additional analytical strategies are needed to account for the different types of organizations to be compared.

**Conclusion:** The reform appears to have had the intended effect of improving efficiency of health and social services organizations in Quebec. However, it may have had other unintended effects that need to be examined. For instance, the gain in efficiency may have resulted in lower quality of care for patients.

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# *The prevalence and patient characteristics associated with preventable emergency department visits in Canada – a systematic review*

Ms. Tammy Lau, University of Western Ontario

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Preventable emergency department (ED) visits are commonly defined as the use of ED for non-urgent, low acuity reasons. These visits are associated with overcrowding and increased wait times in EDs and may be indicative of barriers to primary healthcare. To date, however, no systematic review has been conducted to explore this area in the Canadian context. Therefore, our objective was to investigate the prevalence and patient-related factors associated with preventable ED visits among Canadian adults.

**Approach:** A systematic search was conducted using multiple databases. Titles and abstracts were independently screened by one reviewer, and then the full-text of eligible studies were independently screened by two reviewers. Studies were included if they included a Canadian adult (ages 18 and older) population, their outcome was preventable ED visits, and included the patient characteristics of these visits. Two independent reviewers extracted data on study characteristics, proportions of visits that were preventable, and patient characteristics or additional factors associated with these visits. Lastly, the risk of bias was independently appraised by two reviewers using the Newcastle-Ottawa Quality Assessment Scale.

**Results:** 2,634 studies were retrieved from the databases, and in total 19 studies (15 peer-reviewed and 4 grey literature studies) were included. The proportion of preventable ED visits ranged from 7% to 59%. This variation could be explained by heterogeneity in study design and criteria used to define preventable ED visits. The most commonly reported patient characteristics were: age (n=14 studies), sex (n=13), and access to family physicians (n=12). Preventable ED visits were most strongly associated with older age, female sex, low income, rural residence, and poorer self-rated health. Common reasons for preventable ED visits included difficulties in accessing primary healthcare, perceived severity of symptoms, convenience, and the perceived quality of care provided in EDs. The risk of bias of the included studies was moderate-to-low.

**Conclusion:** Age, sex, income, rurality, and self-rated health are associated with preventable ED visits. Common themes also included barriers to accessing primary healthcare and quality of care. Additional research at the provincial and national-level that incorporates these elements will provide further insight into the impact of preventable ED visits in Canada.

**Author Names:** Tammy Lau, University of Western Ontario; Cynthia Sriskandarajah, University of Western Ontario; Piotr Wilk, University of Western Ontario; Shehzad Ali, University of Western Ontario

**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** The use of emergency departments (ED) for non-urgent, low acuity reasons is a growing concern in the Canadian healthcare system. These preventable ED visits are associated with overcrowding and increased wait times in EDs and may be indicative of barriers to primary healthcare. There is, however, a dearth of Canadian literature on preventable ED visits. Therefore, our objective was to investigate the prevalence and patient-related factors associated with self-reported preventable ED visits among Canadian adults.

**Approach:** Data from the 2015 and 2016 Canadian Community Health Survey (CCHS) was used. The population was restricted to respondents ages 18 and older, non-proxy interviews, and patients with a primary healthcare provider. Our outcome was measured as a binary variable, and patient characteristics were identified using Andersen's Behavioural Model of Health Services Use and previous research on preventable ED visits. Sampling weights and bootstrap weights were used to account for the CCHS sampling design, and multiple imputation was used to account for missing data. Multivariable logistic regression was conducted to determine the association between the outcome and patient characteristics.

**Results:** Our study included a total of 22,337 respondents. Our preliminary results found that 40% of respondents reported having a preventable ED visit in the past year. Respondents who did not consult with a specialist in the past year, lived in rural areas, perceived their mental health as poor, or were single or never married were more likely to have a preventable ED visit. Those who were less likely to have a preventable ED visit included respondents with poor self-rated general health, had a greater number of consultations with a specialist in the past year, were aged 65 and older, had a total household income of \$80,000 or more, male, or were not in the labour force.

**Conclusion:** This research highlights key issues regarding the use of EDs and other health services in Canada. We anticipate that these findings will be useful in informing public policies on the delivery of healthcare and developing targeted strategies for improving access to care and health resources.

**Author Names:** Tammy Lau, University of Western Ontario; Shehzad Ali, University of Western Ontario; Piotr Wilk, University of Western Ontario

***“Going from efficacy to sustainability is not always the A to B that we expect”: Exploring perspectives on sustaining, spreading and scaling up of quality improvement interventions***

Dr. Celia Laur, Women's College Hospital

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**Category:** Oral Presentation

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Quality Improvement (QI) programs rarely consider how their intervention can be sustained long term. A survey of authors of diabetes QI intervention research studies included in a systematic review found that 78% of trials reported improved quality of care, but 40% of these trials were not sustained following study completion. This study further explores why and how the effective interventions were sustained, spread or scaled.

**Approach:** This study involved telephone interviews with those who have implemented and evaluated diabetes QI interventions between 2004-2014 included in a systematic review, completed the sustainability survey, and agreed to further contact. Inductive coding identified key themes and questions for further research.

**Results:** Eleven trial authors (n=9 male; 13 studies) were recruited from the United States (n=8), Canada (n=2) and Australia (n=1). 12/13 studies featured interventions that were deemed “effective” in the survey; 5/13 reported the intervention as “sustained”. One participant clarified that only the ideas were sustained, not the intervention, while another said the intervention was sustained because it was used elsewhere. Two participants indicated it was sustained for a few years after funding ended but has since stopped; one is still sustained. Participants emphasized that for sustainability, researchers need to look beyond academia to understand the “business of healthcare.” The importance of working closely with the facilities that conducted the intervention was emphasized to encouraged “ownership” that could facilitate sustainability of the change after funding ended.

**Conclusion:** To maximize impact, health services researchers need to think beyond effectiveness and consider if an intervention is sustainable, with potential for spread or scalability. Integrated knowledge translation appears to play a role in sustainability. Collaboration with experts outside of health, such as those in business and organizational management is encouraged.

**Author Names:** Celia Laur, Women's College Hospital; Noah Ivers, Women's College Hospital; Jeremy Grimshaw, Ottawa Hospital Research Institute; Ann Marie Corrado, Women's College Hospital



## *Improving Antibiotic Initiation and Treatment Duration in Long Term Care: A Process Evaluation of an Audit and Feedback Intervention*

Dr. Celia Laur, Women's College Hospital

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In long-term care (LTC), 25-75% of antibiotic days of treatment are inappropriate or unnecessary and are often continued for longer durations than necessary. LTC residents are prone to infection, antibiotic related complications, and are difficult to assess. In Ontario, physicians can receive feedback about their antibiotic prescribing through the Ontario Health (Quality) (OH(Q)) MyPractice: Long-Term Care report. Objectives of this study are to explore antibiotic prescribing of LTC physicians and the influence of the report.

**Approach:** All physicians who received a personalized MyPractice: LTC report from OH(Q) in January 2019 (n=361) were eligible and recruited through an e-mail from OH(Q). Semi-structured telephone interviews were conducted by one researcher. Researchers did not see the personalized report, thus did not know the prescribing rates of participants unless told during the interview. Interviews were audio recorded then transcribed verbatim. Thematic analysis was conducted by two team members, first inductively, then deductively using the Theoretical Domains Framework. This project is part of a larger evaluation that quantitatively explores antibiotic prescribing among LTC physicians in Ontario.

**Results:** Interviews were conducted with n=18 LTC physicians; 78% (n=14) were male, practicing for an average of 27 years, with 18 years in LTC. 56% (n=10) were medical directors for at least one facility, working in an average of 2 facilities (range 1-6), with 72% (n=13) in an urban setting. Physicians reported adequate knowledge about when to start an antibiotic but were less aware about evidence supporting shortening the length of prescriptions. Physicians struggled to manage pressure to prescribe antibiotics from LTC home staff and resident's families, especially when on call. These physicians believed their professional roles included being an appropriate prescriber, an educator, and/or a change driver in the facility. However, physicians rarely discussed their prescribing data with colleagues.

**Conclusion:** This theory-informed understanding of antibiotic prescribing practices in LTC is being used by OH(Q) to inform upcoming versions of the MyPractice report in LTC and primary care. As this personalized report is already available for physicians across Ontario, small improvements in practice can have a large impact.

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## *Use of emergency departments for mental health and substance use disorders in British Columbia*

Dr. Ruth Lavergne, Simon Fraser University

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Emergency departments (EDs) offer critical access to services for patients with mental health and/or substance use (MHSU) disorders who are in crisis and may act as a gateway to subsequent care. MHSU ED visits may also signal gaps in access to outpatient mental health services. We describe the characteristics of patients with MHSU ED visits in British Columbia (BC) and examine changes in MHSU ED visits over time.

**Approach:** We analyzed population-based linked administrative health data capturing MHSU emergency department, hospital, and physician service use within the province of British Columbia between 2007/8 and 2017/8. We combined physician billing records from the provincial health insurance system with emergency department records from the National Ambulatory Care Reporting System (NACRS) to capture all adult ED visits for mental health and substance use (MHSU) disorders in BC. We used patient registry data, as well as information from hospitalizations captured through the Discharge Abstract Database to describe the demographic and clinical characteristics of patients with MHSU ED visits.

**Results:** We identified 134,804 MHSU ED visits across 74,053 people in 2017/8. Among people with MHSU ED visits, one quarter didn't otherwise meet case criteria for a MHSU disorder based on hospital or physician services (one hospitalization or two outpatient visits). MHSU ED visits were evenly distributed by sex, and the most common conditions were anxiety, depression, and substance use. People in the lowest income quintile are more than twice as likely to have an MHSU ED visit than in the highest income quintile. Almost 20% of people with ED visits for MHSU were involuntarily admitted under BC's Mental Health Act. Rates of MHSU ED visits have increased since 2010, driven predominantly by increased visits for substance use, mood and anxiety disorders.

**Conclusion:** The use of ED services for mental health and substance use disorders is substantial and growing. While the opioid crisis plays a role in driving increasing visit rates, results highlight substantial gaps in publicly-funded outpatient care for mental health and substance use disorders more broadly.

**Author Names:** Ruth Lavergne, Simon Fraser University; Mehdi Shirmaleki, Centre for Applied Research in Mental Health & Addiction (CARMHA); Wayne Jones, Centre for Applied Research in Mental Health & Addiction (CARMHA); Megan Kaylius, Centre for Applied Research in Mental Health & Addiction (CARMHA); Ridhwana Kaoser, Centre for Applied Research in Mental Health and Addictions - SFU

## *How do we make better health policies? The mixed-methods development of the Health Policy Capacity Assessment Tool (HPCAT)*

Mr. Logan Lawrence, Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Health policy change is required to better address health system challenges. Policy capacity refers to the different resources supporting policy decisions (e.g., expertise, political will, coordination). A recent framework for policy capacity conceptualizes it as a three-by-three matrix, with nine distinct sub-capacities at the intersections between resource levels (individual, organizational, system) and skill types (analytical, operational, political). We used this framework to create a tool for assessing policy capacity.

**Approach:** We used a sequential mixed-methods design to operationalize the policy capacity framework into an assessment tool. First, we conducted a Delphi survey with provincial health policy experts to validate sub-capacities and identify relevant factors (i.e., sub-capacity concepts) and indicators (i.e., ways of assessing factors). Only highly-rated items were included in the first version (V1) of the Health Policy Capacity Assessment Tool (HPCAT). HPCAT V1 was then used to guide interviews for two provincial health policy cases studies. We used deductive coding to align case narratives with policy sub-capacities, and inductive coding to enable new factor identification and further HPCAT refinement.

**Results:** Seventeen policy experts with diverse policy experience completed the initial Delphi survey. They validated the framework sub-capacities and approved 40 factors and 131 indicators for HPCAT V1.

Data from 22 interviews was used to build separate case narratives and describe the roles of sub-capacities over the policy process. Cross-case analysis produced similarities and differences in sub-capacities between the cases.

Finally, the factors identified in each case were compared and synthesized to create a second version of the HPCAT (V2), containing 50 factors across 12 sub-capacities. A new “integrative” skill type was created as a result of inductive coding; integrative skills are distinct from the other three “technical” skills as they both generally enhancing (e.g., communication, expertise) and enable synergies between skills.

**Conclusion:** The HPCAT V2 allows researchers and policy makers to systematically and transparently assess factors influencing health policies. Integrative skills incorporate factors which were not well-articulated in HPCAT V1. Further research is required to determine the effectiveness of HPCAT V2 in different policy environments and its utility in strategic capacity development.

**Author Names:** Logan Lawrence, Dalhousie University

## *Using infographics to enable knowledge translation for electronic consultations in Canada*

Ms. Sophie LeBlanc, Bruyère Research Institute

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**Category:** Oral Presentation

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** The challenges of translating knowledge and innovations into practice are acknowledged in Canada. Infographics are a powerful tool to translate complex research results into a clear format using visual elements. Literature indicates that infographics are preferred by healthcare professionals as a means of conveying information. Additionally, infographics receive more views on social media than traditional abstracts. We use infographics for eConsult, a service that enables asynchronous primary care provider-to-specialist communication through a secure web-based platform.

**Approach:** We have established a rigorous four-stage approach to create infographics and ensure accuracy. We extract key information from the manuscript or source document and create a draft infographic using a design software program (i.e. Visme). Results are presented using colorful graphs, minimal text, and icons. The impact of the study is summarized at the bottom. The infographic is reviewed internally by our research team and edited accordingly. It is shared with program leads for approval, and is then sent to the authors of the source document. After approval, the infographic is disseminated electronically and in hard copy.

**Results:** We have outlined a practical approach to translating research results into a visual format. We have been using infographics for the past three years, as part of our mandate is to facilitate knowledge exchange. Infographics are used with patient partners, when meeting with bureaucrats, and during advocacy work. They are used in meetings for high-level summary, incorporated into PowerPoint presentations, and distributed at conferences. Infographics have proven to be a valuable tool for patient partners, who have provided positive feedback on the effectiveness of infographics when advocating for policy change. Infographics are advantageous when meeting with people who have limited time, like government officials, as they provide a concise visual summary. The ultimate impact of our infographics was the implementation of eConsult in Ontario.

**Conclusion:** Knowledge translation is an important step in raising awareness and moving forward policy change. We have developed a practical four-stage approach for the creation of infographics, which ensures accuracy and impact. Infographics present a creative, visual and valuable tool for sharing high-level information and advocating for policy change.

**Author Names:** Sophie LeBlanc, Bruyère Research Institute; Clare Liddy, Bruyère Research Institute; Erin Keely, ; Lois Crowe, Bruyère Research Institute; Mary Helmer-Smith, Bruyère Research Institute; Ariana Mihan, Bruyère Research Institute; Claire Sethuram, Bruyère Research Institute

*Developing Collaborative Identity: A Longitudinal Study of Interprofessional Socialization Across Five Health Professions*  
Mr. Jeff LeBrun, Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Strong interprofessional relations have been espoused as a keystone for effective care and healthy workplaces. However, emerging evidence suggests that the cultural and historical manner in which health professional students have been socialized may impact future collaboration and respectful interprofessional relations. The aim of this CIHR- funded longitudinal study is to understand the process of formal professional socialization over time and how can better prepare health professional students for collaborative practice.

**Approach:** This research employed an interpretive, narrative methodology, guided by the philosophical and theoretical tenets of interpretivism, hermeneutics, and narrative theory. Participants who entered their first year of health professional study in dentistry, medicine, nursing, pharmacy, or physiotherapy at Dalhousie in September 2015 were interviewed before, during and following completion of their respective programs, until 2 years post graduation. Narrative analysis of interviews were conducted within and across the five cohorts to identify key narrative components as they relate to professional identity development, interprofessional socialization and collaboration.

**Results:** Findings highlight the socialization experiences of health professional students, including examples of interprofessional learning and role modeling. Findings illustrate how professional identity, attitudes, and beliefs evolve throughout formal education and showcase exemplars in terms of building interprofessional respect.

**Conclusion:** Understanding how health professional roles are conceptualized among students provides valuable insight into addressing stereotypes and promoting IPC within interprofessional education curricula. Findings are currently informing the development of health professional curricula and other socialization initiatives designed to enhance interprofessional respect and collaborative practice.

**Author Names:** Jeff LeBrun, Dalhousie University; Sheri Price, Dalhousie University

## *What are the unique needs of individuals with chronic pain in each participating region/province?*

Dr. Clare Liddy, Bruyère Research Institute

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Innovative solutions are needed to ensure individuals living with chronic pain have prompt access to specialist care. eConsultBASE™ is a secure web-based tool that allows physicians or nurse practitioners timely access to specialist advice for patients. In 2018, we received funding to expand eConsultBASE™ for chronic pain to four provinces. In this presentation, we examined the process of developing a needs assessment survey to support implementation, using a patient co-design approach.

**Approach:** Given the value of the patient experience in lending a unique perspective and knowledge to research, we employed a collaborative co-design approach that is integrative, participatory, and patient-centered, engaging the patient as an active research partner. Two patient representatives from each province (Manitoba, Ontario, Quebec, and Newfoundland and Labrador) were formally integrated into the research team and governance structure. The survey was developed through several interactive meetings and email discussions, where patient partners were asked to contribute feedback in order to develop a survey responsive to their needs.

**Results:** Patient partner feedback resulted in fifteen changes to the survey over seven iterations. Patient partners drew attention to question wording, advocating for careful consideration of how questions would be perceived by patients. For example, the wording of questions pertaining to occupation, and income was revised to avoid disempowering those unable to work because of their chronic pain symptoms. Patient partners also raised concerns about the burden of completing the survey, specifically its length. In response, the survey was adapted to be available in different fonts and new methods for patients to complete the survey from home were developed. These were perspectives that would not otherwise have been as thoroughly considered and their integration will lead to greater ease for patients to complete the survey.

**Conclusion:** Patient partners provided a level of expertise that would not have been available through researchers, front line providers, or decision makers alone. Patient engagement improved the relevance of the survey leading to better results that will influence changes in policy and practice.

**Author Names:** Clare Liddy, Bruyère Research Institute; Tess McCutcheon, Bruyère Research Institute; Erin Keely, ; Lois Crowe, Bruyère Research Institute; Regina Visca, McGill University; Sara Ahmed, McGill University ; Lynn Cooper, Bruyère Research Institute; Jocelyn Decoste, Bruyère Research Institute; Philip Lundrigan, N/A; Christine Bibeau, N/A

# *A process evaluation of a 5-year strategy for integrated medical care and service coordination for children with medical complexity in Ontario*

Ms. Lilian Jia Lu Lin, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** There has been little evaluation of the implementation of population-level interventions to improve care coordination for complex patient populations. Complex Care for Kids Ontario (CCKO) is a multi-year provincial strategy aimed at standardizing and expanding complex care services for children with medical complexity through core components of clinical key worker, care plan, and care coordination. Our objectives were to evaluate implementation process and fidelity, determine implementation barriers/facilitators, and inform future interventions promoting integrated care coordination.

**Approach:** We used mixed (qualitative and quantitative) methods to understand context, fidelity, dose, adaptations, reach, process, and mechanisms of impact, informed by the UK Medical Research Council's Process Evaluation Guidance. Qualitative data were collected from semi-structured interviews between June and August 2019 with 38 multidisciplinary healthcare providers, administrators, and system leaders from 14 geographically diverse paediatric healthcare delivery and policy/planning organizations engaged in CCKO in Ontario. Quantitative data were collected from provincial-level project management documents from 2015 to 2019 that captured clinic caseload, clinic staffing, number of patients with a clinical key worker, and number of patients with a care plan.

**Results:** Implementing the CCKO strategy entailed developing a provincial governance structure and program standards, providing opportunities for ongoing provider/staff training and knowledge exchange, streamlining clinic functions and provider/staff roles, and establishing new inter-organizational partnerships. Interim results identified inter-organizational communication challenges and inconsistency of allied healthcare (e.g., social work, dietetic) and administrative support as the main barriers to delivering complex care services for CCKO. The implementation was facilitated by strong engagement and buy-in by healthcare providers/staff towards CCKO, support from organizational leadership and physician champions, and the provision of in-kind supports. Program maturity, population density, level of paediatric expertise, and quality and accessibility of community-based supports influenced the variation in implementation fidelity, processes and outcomes across programs and regions.

**Conclusion:** The implementation of a provincial strategy to expand integrated care coordination for children with medical complexity has forged new cross-sectoral collaborations and improved the visibility of this vulnerable population. Final results (May 2020) will offer novel insights for implementation of team-based care models caring for complex populations.

**Author Names:** Lilian Jia Lu Lin, University of Toronto; Eyal Cohen, The Hospital for Sick Children; Samantha Quartarone, The Hospital for Sick Children; Carol Chan, The Hospital for Sick Children; Nasra Smith, Provincial Council for Maternal and Child Health; Julia Orkin, The Hospital for Sick Children; Nora Fayed, Queens University

## *RA prevalence, area-level indicators and geographical disparities: a spatial analysis approach*

Dr. Xiaoxiao Liu, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Rheumatoid arthritis (RA) is a chronic autoimmune disease and a leading cause of work disability in Canada. Alberta faces geographical variations in the prevalence of RA and disparities in access to rheumatologic care. Reducing health disparities is an important challenge for public health. Using a spatial analysis approach, this study aims to examine the association between RA prevalence and area-level indicators. Assessing this association globally and locally will provide useful insights for reducing health disparities.

**Approach:** Using administrative health data, we apply a direct method to calculate age-sex-adjusted RA prevalence rates at local geographic area (LGA). Area-level indicators, including socioeconomic (aboriginal, immigrant, income, education) and primary care indicators (multimorbidities, ambulatory care sensitive conditions, physician claims out-of-home LGA, number of physicians), were obtained from Alberta Health. We conduct linear regression, spatial autoregression and geographically weighted regression (GWR) to model the association between RA prevalence and area-level indicators. R squared and F statistic are applied to test the model's goodness of fit and model significance respectively. Akaike information criterion is applied for selecting models with minimum information loss.

**Results:** RA prevalence rates vary across LGAs (average=13.2 cases/1,000 population; range:4.7-30.6). GWR has the best model fit, showing RA prevalence is significantly associated with %aboriginal people (positive association), %immigrants (negative association) and %low-income families (positive association). Each of the associations varies by LGA. None of the other indicators are statistically significant. In the South and Calgary zones, one percentage point increase in the percentage of aboriginal people in the population leads to 0.34 and 0.28 increase in RA prevalence, respectively, while the increase of immigrants results in 0.68 and 0.78 decrease respectively. However, the percentage of low-income families has no significant association with RA prevalence in these zones. In the North Rural-Remote areas, all three indicators are significantly associated with RA prevalence (aboriginal:0.12, immigrants:-0.76, Low-income families:0.32).

**Conclusion:** This study shows RA prevalence is significantly associated with the percentage of aboriginal people, immigrants and low-income families in the population. Each association exhibits geographic variation by LGAs. These findings provide valuable information for designing interventions based on local needs, which may potentially narrow the health inequalities in RA prevalence.

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## *Do trends in health service use in persons with Parkinson's disease differ by rurality and income?*

Ms. Laura Maclagan, ICES

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** The global burden of Parkinson's disease has more than doubled over the past three decades, and this trend is expected to continue. Previous studies have demonstrated an increased incidence and prevalence of Parkinson's disease among individuals residing in rural areas and those with lower incomes. Little previous work has examined whether there are differences in health service use among persons with Parkinson's disease by these factors to inform health policy and health service provision.

**Approach:** We identified a repeated, cross-sectional cohort of persons with prevalent Parkinson's disease aged 40+ years at the start of each fiscal year using health administrative databases in Ontario from 2000 to 2016. Urban/rural residence and neighbourhood income quintile were the primary exposures. Rates of health service use including hospitalizations; emergency department, family physician, neurologist, other specialist, and home care visits; long-term care placement; and rehabilitation in the previous year were examined by exposure groups. Rates were sex stratified and age-standardized to the 2016 Ontario population. Average annual percent change, tests for trend, and rate ratios were calculated using Poisson models.

**Results:** As of April 1, 2016, 31,299 persons with Parkinson's disease were identified. Among this group, 11% (n=3,400) resided in rural areas. Persons residing in rural areas were younger (mean age: 73.9 vs. 74.6 p<0.001) and more likely to be male (59.4% vs. 56.4%, p<0.001). Persons residing in urban areas had a higher prevalence of comorbidities (mean 2.52 vs. 2.25, p<0.001). Hospitalizations and family physician visit rates declined during the study period across urban/rural residence and income groups for both sexes. Rates of emergency department, neurologist, and other specialist visits showed small increases over the study period. After adjustment, rates of hospitalizations were 16% higher in rural residents (RR=1.16, 95% CI [1.13, 1.19]), while rates of neurologist visits were 22% lower (RR=0.78, 95% CI [0.76, 0.79]).

**Conclusion:** Patterns of health system use among persons with Parkinson's disease showed mixed trends over the study period. Lower rates of neurologist visits and higher rates of hospitalization among persons residing in rural regions point to potential inequities in health system access. Further work is needed to better understand this association.

**Author Names:** Laura Maclagan, ICES; Fangyun Wu, ICES; Farah Rahman, Institute for Clinical Evaluative Sciences; Connie Marras, Toronto Western Hospital-University Health Network; Susan Bronskill, ICES

## *Evaluating the economic burden of adverse drug reactions for two TNF- $\alpha$ inhibitor biologics using real-world data – a tale of three perspectives*

Dr. Tuhin Maity, McMaster University

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** The estimation of the real-world cost of adverse drug reaction (ADR) has historically relied on the data from randomized controlled clinical trials. However, clinical trial data may not accurately portray the economic risks of an ADR associated with the drug. In this study, we demonstrate evaluating the economic burden of ADRs associated with two brand name TNF- $\alpha$  inhibitor biologics, Remicade and Humira, using real-world data and taking individual, health system, and societal perspectives.

**Approach:** We used post-market ADR reports from the Canada Vigilance Adverse Reaction online database as real-world data. First, we estimated the ADR rates for Remicade and Humira and compared them with those derived from the clinical trials. Next we developed analytical models for evaluating total ADR costs from individual patient, health care system, and societal perspectives. We then applied the models to estimate the annual average economic burden of the ADRs from the three economic perspectives.

**Results:** Remicade and Humira were associated with more than 63,069 ADR reports in 2014-2018 in Canada, which included 703 deaths, 965 disabilities, 13,711 in-patient hospitalizations, and 31,588 other medically important conditions. The rate of several ADR outcomes derived from the real-world data turned out to be significantly different from those derived from the clinical trial data. Our cost analyses indicated that the average annual economic burden of the serious ADR outcomes associated with these two drugs varies from \$39 million (patient perspective) to \$15 million (health system perspective) to \$23 million (societal perspective). This is translated into an average annual cost of \$382 per Remicade patient and \$320 per Humira patient when taking the societal perspective.

**Conclusion:** Our study presents the real-world economic burden from the individual, health system, and societal perspectives for Remicade and Humira. An accurate accounting of the real-world estimation of the ADR-related costs will help the economic analysis of a drug make realistic predictions.

**Author Names:** Tuhin Maity, McMaster University; Christopher Longo, McMaster University; Manaf Zargoush, McMaster University

*A scoping review of the care needs and barriers and facilitators of access to care for transitional-aged youth with mental health and/or addictions concerns and their families.*

Dr. Roula Markoulakis, Family Navigation Project

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Transitional-aged youth (TAY) with mental health and/or addictions (MHA) concerns and their families experience significant challenges finding, accessing, and transitioning through needed MHA care. In order to develop appropriate supports that assist TAY and their families in navigating MHA care, their experiences in the MHA care system must be better understood. This scoping review will identify and explore the roles of, and barriers and facilitators for, TAY and their families when seeking MHA care.

**Approach:** This scoping review commenced in July, 2019, with a search in five relevant databases (Cochrane, CINAHL, EMBASE, MEDLINE, PsycINFO). Three research team members were involved in title, abstract, and full-text scanning and data extraction. Studies focusing on TAY anywhere between the ages of 12-29 and meeting the study objectives were included. Extractions compiled background and narrative information pertaining to the nature and extent of the data. Analysis and synthesis of findings will involve numerical description of the general information extracted (e.g., numbers of studies by country) and thematic analysis of narrative information extracted (e.g., family involvement in TAY help-seeking).

**Results:** A total of 5817 articles were identified. Following title and abstract scanning, 1000 articles remained for full-text review. A total of 48 articles were entered into the extraction stage. Findings to be presented include background information about extracted articles, including information about study country of origin, study objectives, participants, interventions, and methods used. Furthermore, themes pertaining to barriers and facilitators to access to and transitions through MHA care for TAY with MHA concerns and their families and the needs and roles of families in supporting help-seeking and care transitions for TAY with MHA concerns will also be presented. This review will provide essential contextual information regarding TAY with MHA concerns and their families' needs when seeking care.

**Conclusion:** Identifying the factors that influence transitions for TAY with MHA concerns with a family lens will lend to enhanced understanding of the ways in which MHA programs can support this population's needs, involve family members as appropriate, reduce the barriers experienced, and work to build upon existing facilitators.

**Author Names:** Roula Markoulakis, Family Navigation Project; Hinaya Cader, Family Navigation Project; Anthony Levitt, The Family Navigation Project

## *Impact Assessment of the “Measuring Health Inequalities: A Toolkit”*

Ms. Maegan Mazereeuw, Canadian Institute for Health Information

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Despite evidence of differences in health and health care across population groups defined by sociodemographics (e.g. income), inequalities are inconsistently monitored by health organizations. We released a Toolkit with guidelines and resources to support analysts and researchers with measuring and reporting on health and health care inequalities in Canada. The objectives of this impact assessment include determining the Toolkit’s reach, use and impact on health inequalities monitoring and identifying opportunities for improvement.

**Approach:** “Measuring Health Inequalities: A Toolkit” was released in October 2018. In early 2020, we performed the Toolkit impact assessment, with the support of an independent evaluator. A framework mapping metrics to measurement domains (reach, use and impact) guided the data collection and analysis. Various data sources supported this assessment, including social media metrics, web analytics, citations, and evaluation surveys following webinars, workshops and online courses. Stakeholders were also invited via email and social media to complete a poll and survey. Key informant interviews among high-users of the toolkit provided additional context and insights into usability and impact.

**Results:** Preliminary results show that health system organizations from across Canada are accessing the Toolkit, with Ontario having the greatest reach, followed by British Columbia and Quebec. The most widely accessed resources include an introductory video on health inequalities, a report on Defining Stratifiers for Measuring Health Inequality, a guide for Area-Level Equity Stratifiers Using PCCF and PCCF+ and a Supplementary Resources infosheet. Complementary online courses are being accessed by stakeholders from various organizations, with the majority representing hospitals and regional health authorities. Analysis of the survey and interviews will provide additional insight on the extent to which the Toolkit is supporting health organizations with measuring and reporting on health inequalities to drive action on health equity.

**Conclusion:** This impact assessment will inform future enhancements and best practices related to measuring inequalities in health and health care. By assessing the impact of the Toolkit, we can better understand and meet the needs of stakeholders in pursuing improved health and equitable health care for all people in Canada.

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## *Are Exercise, Education and Diet Interventions A Cost-Effective Treatment to Manage Hip and Knee Osteoarthritis? A Systematic Review*

Mr. Darren Mazzei, McCaig Institute for Bone and Joint Health and Department of Community Health Sciences, Cumming School of Medicine, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Regardless of disease severity or co-morbidity, international guidelines recommend education, exercise and diet interventions to manage the high prevalence of hip and knee osteoarthritis (OA). Evidence supporting the cost-effectiveness of these core treatments is sparse but multiple economic evaluations have been published in the past decade. We will systematically review, synthesize and assess the literature evaluating cost-effectiveness of core treatments for the management of hip and/or knee OA.

**Approach:** Published search filters were used to search Medline, Embase, Cochrane Central Register of Controlled Trials, National Health Services Economic Evaluation Database, and EconLit for economic evaluations conducted alongside randomized or nonrandomized clinical trials investigating OA core treatments. Clinical trials evaluating surgical, pharmaceutical and nutraceutical interventions were excluded. Relevant publications were independently screened by two investigators (DM and AA) with conflicts resolved by consensus or content matter expert (HA) when necessary. Information aligning with economic evaluation reporting standards was extracted from included publications. Two investigators (DM and AA) independently assessed methodological quality using the validated Consensus on Health Economic Criteria list.

**Results:** Four cost-effectiveness and 16 cost-utility analyses evaluated a range of core treatments. Exercise interventions compared to usual primary care or education appear cost-effective or cost-saving at standard willingness to pay thresholds in numerous health systems. Different study designs, interventions, comparators, perspectives and outcome measures prevented meta-analysis. Methodological quality has improved. In the past decade, 9 of 10 publications align with the published reference case for OA economic evaluations. Three publications observed that sample sizes used in clinical trials are underpowered for economic evaluations. Eleven studies measured costs using self-reported questionnaires with 1-week to 6-month recall. Recall bias was observed. Ten studies measured health outcomes using the three-level EQ-5D. Sensitivity analyses in five publications showed results were sensitive to surgical costs and rates of treatment adherence.

**Conclusion:** Exercise interventions appear cost-effective although variability in study designs limit comparability. Results were impacted by cost and outcome measurement validity. To limit recall bias, authors recommend using administrative data or validated self-reported questionnaires with less than 3-month recall. To limit ceiling effects, authors recommend measuring outcomes with the five-level EQ-5D.

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*Challenges in implementing a navigation program for adults with multiple chronic conditions. Results from the ENCOMPASS pilot study.*

Dr. Kerry McBrien, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Researchers from the University of Calgary partnered with Mosaic Primary Care Network to develop, implement, and evaluate a community health navigation program for patients with multiple chronic conditions. A pilot study was conducted to determine feasibility and to explore the experiences and perceptions of patients, clinical providers, and community health navigators (CHNs) involved in the program. Here, our objective was to understand the challenges confronted during implementation.

**Approach:** Four community health navigators (CHNs) provided tailored services to patients of two primary care clinics. The intervention was informed by an extensive literature review and refined in consultation with patients, operational partners, front-line care providers, and local and provincial policymakers. During the one-year pilot study (May 2017 to May 2018) we conducted a qualitative descriptive study. Data collection included semi-structured interviews with CHNs (4), patients (5), clinicians (5) (nurses and physicians), and managers (2), and observations of CHNs working with patients. We used thematic analysis to analyze data and summarize challenges associated with program implementation.

**Results:** During the pilot phase, all 16 participants interviewed reflected on daily practices, successes, and challenges related to the program. Some of the barriers described were evident during the 12 cumulative hours of observations. Our analyses showed challenges to intervention implementation in two main areas: 1) screening and recruitment of patients, and 2) relationship building with patients, physicians, and clinic staff. Most of these challenges stemmed from a lack of knowledge or poor understanding of the program and CHNs' roles and scope of practice. These challenges affected implementation, resulting in low interest and unclear expectations among some patients, which impeded meaningful relationship building between patients and CHNs. Similarly, lack of understanding among physicians led to a low number of patient referrals into the program.

**Conclusion:** The pilot study provided an opportunity to explore how a community health navigation program could be implemented in a primary care setting. Understanding the challenges associated with its implementation led to refinements in program implementation and supported the need for continued discussion between the research team and operational partners.

**Author Names:** Kerry McBrien, University of Calgary; Dailys Garcia-Jorda, University of Calgary; David Campbell, University of Calgary; Natalie Ludlow, University of Calgary

*Understanding the motivations of patients: A co-designed project understanding the factors behind patient engagement*  
Dr. Tamara McCarron, University of Calgary - Cumming School of Medicine

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The success of large-scale transformation depends on the effective engagement of diverse stakeholders. As the role of patients as partners in health research and decision making continues to evolve, understanding the motivations of these individuals is essential to the success of engagement initiatives. This study reports on the motivational factors associated with patient engagement in health care.

**Approach:** Three patient co-investigators and a researcher co-designed and conducted this study. A survey was administered to patients and family members who are actively involved in engagement activities in Alberta, Canada. Key informant interviews were conducted, and results were themed using a constant comparative approach. The findings from the interviews and previous research informed the development of the survey tool. The survey data was analyzed using exploratory factor analysis to identify the underlying dimensions in the data. Cronbach's alpha determined reliability of the identified motivations.

**Results:** One thousand, four hundred and forty-nine individuals participated in the provincial survey. Five hundred and forty-three completed and four hundred and twenty-seven partially completed the survey representing a 67% complete rate. The majority of participants were female, retired, well-educated, and lived in an urban centre. Seven motivational factors explained 65% of the total variance. Analysis of internal consistency revealed acceptable reliability for the 7 motivations. These motivations were named by considering the variables within the resulting dimensions. The identified motivations were named as follows: Self-fulfillment, Improving Healthcare, Compensation, Influence, Learning New Things, Conditional and Perks.

**Conclusion:** The results of this research describe a sample of patient and family members currently involved, in various roles such as patient and family advisors with health care organizations. We identified seven motivational factors underlying their engagement. A deeper knowledge of these motivations will not only create meaningful engagement opportunities for

**Author Names:** Tamara McCarron, University of Calgary - Cumming School of Medicine; Tom Noseworthy, University of Calgary; Karen Moffat, N/A; Sandra Zelinsky, The Methods Hub; Gloria Wilkinson, N/A; Derek Hassay, Hasakayne School of Business Univeristy of Calgary; Deborah White, University of Calgary In Qatar; Diane Lorenzetti, University of Calgary; Nancy Marlett, University of Calgary

## *Patients as research partners: A co-designed scoping review to understand how patients are involved as partners in health services research*

Dr. Tamara McCarron, University of Calgary - Cumming School of Medicine

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** The Strategy for Patient Oriented Research (SPOR) is a national coalition of stakeholders dedicated to integrating research into care. With the recent phenomenon of patients assuming roles as research partners, we undertook this review to build our understanding of this role and to inform priorities of SPOR Support Unit Phase II. We aim to provide a foundation that encourages, supports, and sustains patient involvement as research partners in strategic planning and program development in Alberta.

**Approach:** We co-designed and conducted a scoping review of scientific and grey literature using a recognized methodology with a team of patient partners, a doctoral candidate, and a post-doctoral scholar. MEDLINE and EMBASE were searched from 2010 to 2019. Two independent reviewers screened titles, abstracts, and full-text manuscripts for inclusion. The research team will independently extract data, discuss the results, and concurrently update the predefined data-charting form using an iterative process. Any disagreements will be resolved by achieving consensus through discussion. The research team will complete narrative and tabular syntheses of results.

**Results:** We anticipate completing this review, which is currently underway in time for the May conference. Our preliminary search results include 5741 titles (duplicates excluded). We will report data in tabular form (using frequencies/percentages as appropriate) with the following article characteristics: a) country of origin; b) author; c) study design; d) study population; e) type of engagement activities; f) purpose/goal of engagement activities; and g) reported direct/indirect study outcome(s) as a result of the engagement activity. We will report the following patient partner characteristics: a) age; b) sex; c) gender; d) perspective (patient/parent/family member/caregiver/community member); e) ethnicity; and f) level of education.

**Conclusion:** Identifying the characteristics of patient partners will reveal who constitutes “partner” and how they are engaged in health services research to inform priority areas for the development of the SPOR Support Unit Phase II. Additionally, this information assists SPOR and others in the identification of additional growth areas and opportunities.

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## *Exploring Stakeholder Perspectives of System Level Gaps in Healthcare Quality and Safety (HQS) Training*

Dr. Deirdre McCaughey, Cumming School of Medicine, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** With 1 in 18 patients experiencing a harm event in Canadian hospitals (CIHI 2018), work is needed to improve care delivery and reduce harm. One solution is comprehensive training in healthcare quality and safety (HQS); yet no HQS graduate training programs exist outside of Ontario. This exploratory research sought to map HQS training gaps in Alberta in order to identify core competencies and integrated training opportunities at, uniquely, the system level.

**Approach:** The study focused on generating discussion around HQS training in Alberta and is thus exploratory. Breakout sessions primarily focused on three core questions:

(1) Who needs HQS education?

(2) Why do these people need this education and how is it relevant to their job duties?

(3) What will “trainees” do with this education e.g. what value does it deliver within the healthcare system?

Discussion of these questions took place within the context of a stakeholder meeting, wherein HQS training available to Albertans was presented followed by facilitated breakout sessions. Each stakeholder was assigned to a breakout group, led by experienced facilitators.

**Results:** Stakeholders identified that HQS training within the province is not an expectation; it is considered optional and typically viewed as “nice to know” versus “must know”. Stakeholders also suggested explicit work be done to embed the commitment to quality improvement and patient safety at a policy level from Alberta Health (AH) and within the culture of Alberta Health Services (AHS). Last, stakeholders suggested government funding should be made available to offer HQS training within the province, as a provision of quality care. Standardized HQS training would allow healthcare leaders to remain in-province to receive this needed education. Lack of resources was not cited as a concern; however, lack of integration, communication, and shared knowledge across and within provincial organizations was identified as a barrier.

**Conclusion:** Stakeholders agreed that Alberta HQS programs are limited to one-off or internal organizational programs to meet specific needs and therefore not comprehensive. They further identified that provincial discourse and vision for the future is needed as HQS training gaps in the province are not resolvable by individual organizations alone.

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Biologic drugs are important treatment options for several conditions, including rheumatic conditions, gastrointestinal disease, and diabetes. Yet, these medications are associated with high costs. Recently available biosimilars are similar, lower cost medications with no clinically meaningful differences compared to their innovator biologics. Several provinces have introduced reimbursement policies that mandate switching to biosimilars. We sought to determine the costs of biologics and the potential savings of different reimbursement models in Ontario, Canada.

**Approach:** We conducted a population-based time-series study between January 2010 and June 2019 to assess the quarterly utilization and costs of biologics used for the treatment of rheumatic conditions and inflammatory bowel disease (IBD; etanercept, infliximab, and adalimumab) through the public drug program in Ontario, Canada. We modeled the following scenarios 1) all biologics users are required to switch to a biosimilar, 2) new biologic users are required to switch to a biosimilar. We also explored the impact of negotiating biosimilar prices to 25% and 50% of the innovator price. We forecasted costs to December 2020 (1.5 years) using smoothing models.

**Results:** Between Q1 2010 and Q2 2019, the number of biologic users for rheumatic and IBD indications increased by 133% from 5,225 to 12,178 users, and the costs increased by 161% from \$29.1 million to \$76.1 million. In 2018, 91.8% (N=14,599 of 15,905) of people treated with biologics received the innovator. We estimated that, under current policies, the Ontario government would spend \$1.03 billion on biologics for rheumatic conditions and IBD between 2018 and 2020. Depending on the policy implemented, and negotiated biosimilar prices, the 3-year (2018-2020) cost implications of potential biosimilar reimbursement policies vary considerably. Specifically, 3-year savings were estimated to range between \$67.5 million (new user switch) and \$673.3 million (mandatory non-medical switch with biosimilars priced at 25% of innovator biologics).

**Conclusion:** The costs of biologic drugs for rheumatic and IBD indications are substantial and expected to rise over time. Biosimilars offer an important opportunity for cost savings, yet current uptake is low. Considerable savings are achievable if policies are implemented to make biosimilars mandatory for either new or all users.

**Author Names:** Daniel McCormack, ICES; Tara Gomes, St. Michael's Hospital; Samantha Singh, ODPRN; Muhammad Mamdani, Unity Health Toronto; Michael Paterson, Institute for Clinical Evaluative Sciences (ICES); Diana Martins, St. Michael's Hospital; Mina Tadrous, Women's College Hospital; Sophie Kitchen, ODPRN; Mirhad Loncar, CADTH; Louis de Leseleuc, CADTH

## *Opioid Agonist Therapy as treatment for opioid use disorder: comparing duration, risks and frequency of healthcare encounters*

Mr. Daniel McCormack, ICES

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Methadone and buprenorphine/naloxone (BUP) are considered first-line treatment options for opioid use disorder (OUD). The objective of this study was to compare duration of treatment, risks of overdose, and the frequency of interactions with healthcare professionals among people newly starting treatment with one of these medications.

**Approach:** We conducted a population-based propensity-score matched cohort study among people newly initiating methadone or BUP between October 2016 and September 2017. We defined ongoing treatment on the basis of successive refills within 30 days, and opioid overdose using hospitalization records. Secondary outcomes included number of outpatient visits for OUD, and time to receipt of a 7-day take-home supply. We used Cox Proportional Hazards regression and Poisson models to compare outcomes between treatment groups.

**Results:** After 1 year, 45.6% of people initiating methadone and 29.6% of those initiating BUP continued treatment. Those initiating BUP had a similar risk of opioid overdose (adjusted HR 0.85, 95% CI 0.62-1.17), but a lower risk of opioid overdose while on treatment (aHR 0.59, 95% CI 0.39-0.88). Compared to those starting methadone, those treated with BUP also had a lower rate of outpatient visits for OUD (adjusted Rate Ratio 0.74, 95% CI 0.72-0.76) and were more likely to receive a weekly take-home dose over follow-up (aHR 2.63, 95% CI 2.43-2.85).

**Conclusion:** There are important differences in the risk of overdose and requirements for frequent healthcare encounters for people starting treatment with methadone and BUP, that can be explained by their differences pharmacologically, and in their models for delivery.

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## *Provider volume and maternal complications after Caesarean Section: Results from a population-based study*

Dr. Ted McDonald, University of New Brunswick

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** A large literature search suggests a relationship between hospital/surgeon caseload volume and surgical complications. In this study, we describe associations between post-operative maternal complications following Caesarean section and provider caseload volume, provider years since graduation, and provider specialization for women undergoing Caesarean sections in New Brunswick Canada (NB). A notable feature is that we adjust for both hospital volumes and patient characteristics in considering the relationship between surgical volumes and complications.

**Approach:** Our analysis used population-based discharge abstract data for the period April 2004 to March 2014, linked to patient hospital data, physician registry data and vital statistics. We considered all hospital admissions (N=20,914) where a Caesarean Section surgery was recorded, as identified by a Canadian Classification of Health Intervention code 5.MD.60.XX. We computed surgeon caseload volumes in NB and hospital caseload volumes in the two years prior to each surgical case. We ran logistic regression models to identify the odds of occurrence of post-surgical complications during the hospital stay after controlling for patient and surgeon characteristics and hospital volumes.

**Results:** Roughly 2.6 percent of admissions had at least one of the following groups of complications: disseminated intravascular coagulation, postpartum sepsis, postpartum hemorrhage, and postpartum infection. The likelihood of complication was negatively associated with provider volume and provider years of experience, and positively associated with having a specialization other than maternal-fetal medicine or obstetrics and gynecology. However, the magnitude of these effects on the likelihood of complications was substantially smaller than those found for patient characteristics including the presence of comorbidities, living in lower income neighborhoods and living in rural areas (all of which were correlated with greater incidence of complications).

**Conclusion:** Measures of physician training and experience are associated with the likelihood of Caesarean Section complications. In the context of a rural province facing the challenge of providing surgeries in rural hospitals, this suggests a tradeoff between the benefits of increased volume versus increased patient travel costs.

**Author Names:** Ted McDonald, University of New Brunswick; Daniel Crouse, University of New Brunswick; Philip Leonard, University of New Brunswick; Neeru Gupta, University of New Brunswick ; Jonathan Boudreau, University of New Brunswick

## *Data intensive science and the public good: Results of public deliberations in British Columbia*

Dr. Kimberlyn McGrail, School of Population and Public Health, University of British Columbia; Centre for Health Services and Policy Research, University of British Columbia

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Research using linked data sets can lead to new insights and discoveries that positively impact society. However, the use of linked data raises concerns relating to illegitimate use, privacy, and security (e.g., identity theft, marginalization of some groups). It is increasingly recognized that the public needs to be involved in setting policies for data infrastructure and data access systems that consider both the potential benefits and risks of research.

**Approach:** Two four-day public deliberations were held in BC, in April 2018 and Oct/Nov 2019.

25-30 participants were chosen for each deliberation using two different recruiting methods, both aimed at maximizing diversity in demographics and region of residence. Policy receptors identified questions where public input would be valued. Information booklets and speakers informed participants. Small and large group discussions identified the range of views on each question, leading to collective statements on which participants voted. The motivation is not consensus, but identifying areas of agreement and persistent disagreement, and from that policies options that are acceptable across diverse views.

**Results:** Between 15 and 20 recommendations (or deliberative statements) were produced during each event. All of these can be categorized under four main headings: the board availability of data (general support, but with specific limits on acceptable contexts); governance and authorization of uses of linked data (process controls are important as is attention to the potential for stigma and identifiability); expected protections (researchers have responsibilities that go with their use of data); and public involvement (the importance of transparency and ongoing input). Policy makers received recommendations at a panel at the end of each deliberation. There is evidence of the influence of this work on ongoing policy development.

**Conclusion:** The public is very receptive to involvement in these time-intensive processes, and policy makers are open to the input received. There is consistency in public views across these two deliberations and in comparison with work in other jurisdictions. Deliberations produce meaningful and nuanced inputs to policy.

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## *Training for Impact: Early Lessons Learned from a Canadian approach to Embedded Fellowships*

Ms. Meghan McMahon, Institute of Health Policy, Management and Evaluation, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** There is a worldwide call to modernize doctoral training in all areas of science to better prepare graduates to contribute to society. The Health System Impact Fellowship (HSIF) program represents a pan-Canadian effort to modernize health services and policy research (HSPR) training for greater health system impact. The HSIF was launched in 2016 and has been evaluated on an ongoing basis. This study report's on five key findings from the formative evaluation.

**Approach:** A mixed methods, multi-study, formative evaluation approach was used. The evaluation combined quantitative and qualitative data and analyses based on the 2017 and 2018 cohorts (n=95 fellows and 62 organizations). It included: a study of HSPR PhD graduate career outcomes over a 20-year period; a comparative assessment of the HSIF with AcademyHealth's Delivery System Science Fellowship (DSSF); an analysis of fellows' competency development over time; an assessment of the role and value of mentorship by health system leaders in the training of embedded fellows; and an analysis of the impacts fellows made within their host partner organizations.

**Results:** The evaluation revealed five key initial findings. First, employment in academic positions has declined over time; today's graduates are more likely than past graduates to work in a variety of sectors and roles. Second, the HSIF and DSSF share similar objectives but have taken different approaches to achieve these objectives. Third, the HSIF provides an opportunity to develop professional competencies that are not currently emphasized in most HSPR doctoral curricula. Fourth, there is no one-size-fits-all approach to mentorship in the context of embedded fellows, and there are opportunities for improvement. Fifth, fellows are making valued and diverse impacts within their host health system partner organizations, including building internal research capacity, infusing new approaches to problem solving, and informing the design and evaluation of programs.

**Conclusion:** The HSIF appears to be a promising vehicle to amplify the use of research within health system organizations and prepare PhDs for success and impact in careers within and outside traditional academic settings. Further evaluation is needed to understand how the program affects career trajectories and sustained embedded research capacity.

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## *Mandatory reporting legislation in Canada: improving patient safety or just a framework for data collection?*

Ms. Crystal Milligan, University of Toronto, Institute of Health Policy, Management & Evaluation

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Patient safety remains a major public health challenge. A systems-thinking approach views patient safety as an outcome of the entire healthcare system; in other words, aspects of the system itself cause most patient safety incidents. Legislation is one aspect that is poorly understood in relation to impact on patient safety. In this study, we examined and compared Canadian provincial and territorial (PT) legislation that explicitly requires and governs mandatory patient safety incident reporting.

**Approach:** This study explored mandatory reporting legislation and patient safety outcomes in hospital settings. Data collection (January-May 2019) followed a multi-methods approach: a literature review to understand what is known regarding associations between patient safety legislation and outcomes; consultations with senior health system leaders; a jurisdictional review and assessment of the comprehensiveness of PT mandatory reporting legislation; and assessment of the extent to which patient safety outcomes are associated with variations in legislative frameworks. We mapped our results by jurisdiction and against a conceptual framework built upon the essential elements of patient safety legislation, as described in academic literatures.

**Results:** Current available evidence regarding any potential impact of mandatory reporting legislation on patient safety outcomes is limited. Eight jurisdictions have mandatory reporting legislation (BC, SK, MB, ON, QC, NB, NL, NT), but we found no clear patterns between legislation and outcomes. However, our results suggest existing legislation is designed to gather information about—rather than respond to and prevent—patient safety incidents. System- and learning-oriented legislation should contain provisions for investigation and analysis by experts, maintenance of a system-wide repository of data, regular review and sharing of lessons learned, and accountability. Strong patient safety culture and communication, with balance between the needs for privacy, confidentiality and sharing information, are foundational to enacting a cycle of learning to prevent future harm.

**Conclusion:** Legislation is one strategy among many to improve patient safety outcomes, with potential to play a major role as a framework for evidence-based interventions, learning and change in healthcare. Our results provide a starting point for deeper examination of impacts of mandatory reporting legislation on patient safety measures in Canada.

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## *Strengthening Commitment for Improvement Together: A Policy Framework for Patient Safety.*

Dr. Renee Misfeldt, Canadian Patient Safety Institute

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Patient Safety is a public health crisis in Canada. The Canadian Patient Safety Institute's (CPSI) 2018-2023 Strategy, defines a vision that "Canada has the safest care in the world". CPSI drafted a Policy Framework to stimulate conversation and guide action on the following policy levers: legislation, professional regulation, accreditation standards, organizational policies, and patient and public engagement. The Policy Framework advances the agenda on patient safety within the policy arena.

**Approach:** CPSI used a qualitative approach to identify and analyze various policy levers, outline guiding principles, and determine measures of success. A literature review of academic sources, grey literature and published documents was conducted. Concurrent to this, CPSI convened an advisory committee comprised of leaders and experts from medicine, nursing, regulatory bodies, governments, non-government organizations, and patient partners. The Committee informed the development of the Policy Framework, offered feedback, and assisted in identifying examples of policy levers or priority initiatives in patient safety along with the guiding principles for patient safety policy and measures of success.

**Results:** CPSI's Policy Framework encourages discussion and guides action by policymakers, researchers, private and public healthcare delivery organizations, front line care providers, health managers, leaders, patients and their families, and the broader Canadian public. CPSI's Policy Framework serves as a guide for implementing and evaluating patient safety legislation, organizational policies, public engagement, standards and regulations. It sets the stage for learning from other jurisdictions or organizations and assists with identifying policy gaps and areas for further improvement for various populations in Canada.

Using a cycle of quality improvement, CPSI created a conceptual model that includes the following interconnected components:

- Policy Aim: Canada has the safest care in the world;
- Policy Levers;
- Policy Context;
- Policy Actors;
- Guiding Principles;
- Measures of Success; and
- Knowledge to Action.

**Conclusion:** CPSI's Policy Framework encourages discussion and guides action by policymakers, researchers, private and public healthcare delivery organizations, front line care providers, health managers, leaders, patients and their families, and the broader Canadian public. CPSI's Policy Framework serves as a guide for implementing and evaluating patient safety legislation, organizational policies, public

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## *Cost-Effectiveness of Teplizumab for Different Target Patient Groups*

Ms. Shweta Mital, Memorial University of Newfoundland

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Teplizumab is the first-ever drug recently shown to prevent or delay Type 1 diabetes onset in at-risk individuals, especially in those with certain genetic and antibody characteristics. The drug has been accorded 'breakthrough therapy' designation by the US FDA. However, the potentially high price of this biologic drug may pose challenges for coverage and reimbursement for policymakers. In this study, we investigate the cost-effectiveness of this drug for different target individuals.

**Approach:** Using Markov microsimulation modelling, we compared cost-effectiveness of 5 options for choosing target individuals (i.e., all at-risk individuals, individuals without Human Leukocyte Antigen (HLA)-DR3 or with HLA-DR4 allele, individuals without HLA-DR3 and with HLA-DR4 allele, individuals with anti-Zinc Transporter 8 (ZnT8) antibody negative and no provision at all) at different possible prices of Teplizumab. Effectiveness was measured by quality-adjusted life-years. Costs were estimated from health system perspective using US data.

**Results:** If price of Teplizumab is below \$28,700, treating all at-risk individuals is cost-effective. However, it will be cost-effective to treat only individuals without HLA-DR3 or with HLA-DR4 alleles for prices between \$28,700 and \$59,800, only individuals both without HLA-DR3 and with HLA-DR4 alleles for prices between \$59,800 and \$132,000, and only individuals with negative ZnT8 antibody status for prices between \$132,000 and \$210,000.

**Conclusion:** Cost-effective provision of Teplizumab to target individuals depends on price of Teplizumab and genetic and antibody characteristics of treated individuals. As the drug enters the market, findings from this study will help inform policymakers and payers on cost-effective ways to provide this innovative but expensive drug to at-risk individuals.

**Author Names:** Shweta Mital, Memorial University of Newfoundland; Hai Nguyen, Memorial University of Newfoundland

## *Intersectoral Action in Health: The importance of policy agendas and implementation approaches*

Dr. Shinjini Mondal, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Intersectoral action (ISA) is seen as a means to advance equities and deliver more comprehensive and holistic health services. Despite these incentives and more than two decades of efforts to implement intersectoral policies, it still remains a challenge. Using the case of tobacco control policy in India, we examine the policy architecture, instruments and mechanisms for ISA implementation. The overall objective of the study is to identify, measure, and strengthen the implementation of intersectoral policies

**Approach:** We use a policy case study design, with components of policy landscaping and in-depth mixed-methods implementation analysis. For the policy landscape, we reviewed national and provincial legislation and policies (14) and conducted interviews (18) with key informants and implementers. In the examination of implementation, we undertook a comparative analysis between two districts (n=57, n=63) in an Indian state, using social network analysis to map the whole implementation network and relationships across different departments (health, education, police, municipal, research org, NGOs, media, municipal) as well as in-depth interviews (n=36) and observations (n=10) to understand implementation process, mechanisms and experiences.

**Results:** The national policy, legislation and international guidance and treaties provided the necessary institutional mechanisms to advance intersectoral work. Policy entrepreneurs, leaders (in both political and health systems), civil society, media, research and advocacy groups, all ensured policy uptake. In the better performing district, the implementation network was denser and involved a higher degree of reciprocity, centrality, and inter-organization connectedness. We found evidence that the central actor (nodal officer), who acted as the local network leader, developed authoritative powers to take financial and programmatic decisions and was able to mobilize support across departments. The provision of joint meeting and review by district administration heads (in the civil service) also enabled accountability. The main challenge was to overcome departmental hierarchies and allow other departments prioritize health work

**Conclusion:** Intersectoral action provides an overarching framework to address health challenges holistically. National policy directives convey mandates and intentions, but implementation on the ground requires support and active facilitation. ISA is not an end in itself but a continuously evolving process, requiring adaptation to remain relevant and meaningful

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*Persistent Socioeconomic Inequalities in Location of Death and Receipt of Palliative Care: a population-based, repeated cross-sectional study*

Mr. Luke Mondor, ICES

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Providing equitable care to patients in need across the life course is a priority for many healthcare systems. We sought to estimate socioeconomic inequality trends in the proportions of decedents that died in the community and that received palliative care within 30 days of death (including home visits and specialist/generalist physician visits) in Ontario.

**Approach:** We conducted a repeated cross-sectional analysis using health administrative data held at ICES from 2009 to 2016. We identified 729,290 decedents  $\geq 18$  years of age from the vital statistical database, and measured socioeconomic position by quintile of material deprivation at the neighbourhood level. Inequality gaps were quantified for each year and over time using the slope index of inequality (absolute gap) and relative index of inequality (relative gap), adjusting for age, sex and health region of residence.

**Results:** In 2016, the modeled absolute gap (corresponding 95% confidence interval) between the most- and least-deprived neighbourhoods were 3.8% (2.9 to 5.1%) for community deaths, 6.8% (5.7 to 7.9%) for palliative home visits, and 6.8% (5.8 to 7.8%) for palliative physician encounters, indicating inequality in end of life outcomes favouring decedents from the least deprived areas. Relative to 2009, the absolute gap declined for community deaths by 3.8 percentage points (2.2 to 5.4%) due to improvements in the outcome in the most deprived groups in 2016, but widened for palliative physician visits by 2.4 percentage points (0.8 to 4.0%). Heterogeneity in inequality across disease trajectories (i.e., organ failure, terminal illness, frailty, and sudden death) was evident.

**Conclusion:** Key measures of end-of-life care are not achieved equally across socioeconomic groups in Ontario. These data can be used to inform policy strategies to improve equality in the delivery of palliative and end-of-life services.

**Author Names:** Luke Mondor, ICES; Peter Tanuseputro, Bruyère Research Institute & Ottawa Hospital Research Institute; Walter Wodchis, University of Toronto

## *Results from Health Links coordinated care in Ontario: a propensity-matched difference-in-differences study*

Mr. Luke Mondor, ICES

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Health Links were launched in December 2012 by the Ontario Ministry of Health and Long-Term Care (MOHLTC) to bring together care providers to better provide coordinated, community-based healthcare for persons with complex health and social needs. We evaluated the use of hospital-related healthcare services and costs for Health Links enrollees in the year before vs. after program enrolment and compared utilization differences to complex patients not enrolled in the program (comparator group).

**Approach:** We identified 10,871 Health Links patients in Ontario that received a coordinated care plan (CCP) prior to April 2017 using the Client Health and Related Information System (CHRIS) registry, linked to health administrative data. We used propensity scores to match enrollees 1:1 with comparators identified from the Registered Persons Database. A difference-in-differences (DID) approach was used to evaluate the change in 1-year rates of hospital admissions, days in hospital, emergency department (ED) visits, total costs, as well as 30-day readmissions and physician follow-up within 7-days of discharge for matched enrollees, relative to matched comparators.

**Results:** We matched 10,296 (95%) enrollees to a comparator, balancing socio-demographic characteristics, prevalence of comorbidities and 1-year trajectories of utilization and cost counts at baseline. One-year mortality was comparable between matched groups (hazard ratio, enrollees vs. comparators (reference): 1.06, 95% confidence interval: 0.99-1.13). From DID models, hospital admissions and ED visits per person-year significantly decreased for enrollees by 16% and 14% respectively, but days in acute care and total costs per person-year increased (12% and 34%, respectively). Across these measures, the pre/post differences were more favorable for matched comparators, resulting in statistically significant DID estimates. No differences for readmissions or physician follow-up were found before vs after or between populations. These findings were robust to multiple sensitivity tests.

**Conclusion:** Although hospital admission rates and ED visit rates decreased after enrolment in Health Links, improvements were greater among matched comparators that did not receive the Health Link approach to care. Additional research based on a robust and complete provincial-wide Health Link registry is needed to confirm these findings.

**Author Names:** Luke Mondor, ICES; Walter Wodchis, University of Toronto

## *Promoting Health through Accessible Public Playgrounds*

Dr. Mehrnoosh Movahed, School of Physical and Occupational Health, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Everyday, over 200,000 children with disabilities in Canada are denied the right to do what every other child is doing: playing. Play contributes to the physical, cognitive, social, emotional development and wellbeing of all children. Play is a transformative, creative and universal experience that is a human right of all children, regardless of socioeconomic status, ethnicity or ability. However, most of current playgrounds prevent full participation of children with disabilities.

**Approach:** In this study we: 1. identified the existing policy-related research articles, International and Canadian federal/provincial acts, legislations and guidelines related to inclusive playgrounds; 2. gathered stakeholders' opinions on the current situation of playgrounds, including key recommendations, needs and barriers for children with disabilities. Stakeholders in this study were children with disabilities and their families, clinicians, educators, and orderlies (school's caregivers). In phase 1, we developed data extraction sheet and conducted a content analysis to identify relevant information from selected research articles and policy documents. In phase 2, we performed a descriptive analysis of the stakeholders' responses using NVivo V12.4.0.

**Results:** Totally 25 research articles and 10 international and national policy documents were included. Ninety-seven above-mentioned stakeholders were questioned. The facilitators and barriers for inclusive playground were divided into 3 categories: physical, social and political environments and the sub-factors were listed. Our findings suggest that children with disabilities are missing opportunities to engage in the physical and social environment of playgrounds, to engage in activities and play with peers. There is now a broader recognition around the impact of built environment design on health and wellbeing, as well as the potentially long-term consequences on quality of life. Our study's results could be interpreted using the community wellbeing framework which was developed to define and evaluate the built environment's contributions to community wellbeing.

**Conclusion:** Despite the importance of play and Children's rights, there is not enough policy and guidelines to mandate provision of inclusive playgrounds. All stakeholders should be involved in planning and design of inclusive playgrounds. The three environmental factors should be addressed carefully in order to make playgrounds inclusive.

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## *How to Retain Midwives in Canada: Results from Pan-Canadian Study*

Dr. Elena Neiterman, University of Waterloo

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The profession of midwifery in Canada has grown in popularity since its legalization in early 1990s, but the retention of midwives in the workplace continues to pose a challenge. The goal of this paper is to present the workplace trends of Canadian midwives and explore how they maintain their work/life balance while managing their careers and personal lives. The objective of this study is to examine how we can improve retention among midwives in Canada.

**Approach:** This paper is based on the results of the study utilizing concurrent mixed-methods design. Quantitative findings summarize the results of pan-Canadian survey administered to all registered midwives in Canada. The survey was conducted in 2018 and advertised through midwives' professional associations and social networks. It was available in both, English and French languages. In addition, 29 individual semi-structured interviews were conducted with midwives across Canada during 2017-2018. Participants were purposively recruited to explore the experiences of midwives practicing in rural and urban areas as well as new registrants and midwives with decades of professional experience.

**Results:** In total, 720 midwives responded to our survey, which represents 43% of all registered midwives in Canada. The demographic profile of the participants resembled that of the general population of midwives in Canada and had representation from all geographic regions. While most midwives felt pride and satisfaction from their job, close to 33% considered leaving midwifery in the near future. About 80% of the respondents said they were not adequately compensated for their jobs. Qualitative data showed that midwives' intention to leave the profession was shaped by the interplay of factors which can be categorized as personal challenges (balancing family and work responsibilities), clinic/practice environment (relationship with colleagues), interprofessional relationship (communication with obstetricians and nurses), and macro/government level (model of practice, remuneration).

**Conclusion:** In conclusion, we offer some recommendations that can improve the retention of midwives in Canada. These include personalized strategies that can be implemented by individual midwives/clinic as well as recommendation for changes in macro/government policy.

**Author Names:** Elena Neiterman, University of Waterloo; Farimah HakemZadeh, Lazaridis School of Business; Isik Zeytinoglu, McMaster University; johanna geraci, College of Midwives; Jennifer Plenderleith, McMaster University ; Irina Oltean , University of Waterloo ; Derek Lobb , McMaster University

## *Changes in Adults' Vaping and Smoking Behaviors Associated With Vape-Free Laws*

Dr. Hai Nguyen, Memorial University of Newfoundland

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Banning e-cigarette use in public places has attracted considerable debate, with governments adopting different policies. However, little is known about the outcomes of such bans. We investigated the association of banning e-cigarette use in public places and workplaces in Canadian provinces with adults' vaping and smoking behaviors.

**Approach:** This study uses quasi-experimental difference-in-differences methods to analyse data from nationally representative Canadian Tobacco Monitoring Use Survey (CTUMS) 2004-2012 and Canadian Tobacco, Alcohol and Drugs Survey (CTADS) 2013-2017. Primary outcomes were e-cigarette use including ever use of e-cigarettes, past 30-day use of e-cigarettes, use of e-cigarettes for smoking cessation and use of e-cigarettes when unable to smoke combustible cigarettes. Secondary outcomes were combustible cigarette use including ever smoked cigarettes, currently smoke cigarettes, cigarette quantity smoked and attempts to quit smoking.

**Results:** After the bans, e-cigarette use in the past 30 days did not change significantly in provinces with a ban compared to provinces without a ban (0.002; 95% CI -0.022 to 0.026; p=0.85). The bans also had no impact on current combustible cigarette use (0.009; 95% CI -0.019 to 0.037; p=0.49). There is evidence of ban evasion among young people aged 19-24 who, after the bans, reported higher use of e-cigarettes when unable to smoke combustible cigarettes (0.114; 95% CI -0.023 to 0.250; p=0.092).

**Conclusion:** Two years after implementation, the vapor-free laws in Canada had no impacts on adults' vaping and smoking behaviors. Policy efforts are urgently needed to improve the ban enforcement and to deal with discreet vaping among young adults.

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## *Association between Cannabis Legalization and Beer Sales: An Interrupted Time Series Analysis*

Dr. Hai Nguyen, Memorial University of Newfoundland

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Cannabis and alcohol are the two most commonly used recreational commodities among young adults. With the recent cannabis legalization in Canada, a key concern is its impact on alcohol consumption. However, there exists limited evidence on this relationship. This study provides the first evaluation of the impact of Canada's recreational cannabis legalization on beer consumption.

**Approach:** We used monthly data on beer sales between January 2012 and October 2019 in Canada and segmented regression models to investigate changes in beer consumption following cannabis legalization in October 2018. We examined both changes in total beer sales and separately sales of bottled, canned and kegged beer. Analyses were conducted for both national level sales and individually by province.

**Results:** Total sales of beer (aggregate of bottle, canned and kegged beer) dropped by 1.2% ( $p < 0.05$ ) immediately after recreational cannabis legalization while there was a reduction in sales of 0.2% ( $p < 0.01$ ) in each month post-legalization. The decline in sales immediately after legalization was observed for all 3 types of beer, although the change was only significant for canned beer (2.1%,  $p < 0.01$ ). Decline in sales were larger in the western Canadian provinces compared with central provinces and the Maritimes.

**Conclusion:** Recreational cannabis legalization is associated with a decline in beer sales in Canada, suggesting that people are substituting recreational cannabis for beer. With the recent legalization of cannabis edibles and drinkables, it will be interesting to see how entry of these products into the legal market will affect alcohol consumption.

**Author Names:** Hai Nguyen, Memorial University of Newfoundland; Stephen Bornstein, NLCAHR; Nadia Ahmed, Memorial University of Newfoundland; Shweta Mital, Memorial University of Newfoundland; Shawn Bugden, Memorial University of Newfoundland



## *Canadian Drug Ontology (CDO): An ontology to facilitate the integration of clinical drug information*

Dr. Jean NIKIEMA, Centre de recherche du Centre hospitalier de l'Université de Montréal

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**Category:** Oral Presentation

**Primary Theme:** Health Informatics

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Using computer systems for collecting and sharing drug information is a key approach for improving safety and quality of medication use both at the individual and population levels. In Canada, drug information is mainly handled by private companies with different sets of drug terminologies. However, little effort has been made to ensure the interoperability of these datasets. This project describes the development of the Canadian-Drug-Ontology (CDO), an open-source ontology integrating Canadian publicly maintained drug terminologies.

**Approach:** CDO model integrated the drug description of the Drug Product Database (DPD) and the Canadian Clinical Drug Data Set (CCDD) recently developed jointly by Canada Health Infoway and Health Canada. By a heuristic approach, the drug entities and related definitional characteristics in DPD and CCDD were highlighted. The valuable missing international characteristics in these terminologies were identified by a comparison to RxNorm. Our model was populated by making a lexical mapping between the available set of characteristics in DPD and CCDD. The anatomy of drug labels was used to access the missing characteristics. Finally, formal definitions were created for drugs.

**Results:** The CDO release, constructed in Ontology Web Language, contains 51,248 PCCD ("Branded-Drug" in RxNorm) related to 28,084 CD ("Non-Proprietary-Therapeutic" in CCDD and "Semantic-Clinical-Drugs" in RxNorm). The CD were formally described using 51,952 "Components" ("Active-Ingredient-Group" in DPD and "Semantic-Clinical-Drug-Component" in RxNorm), 1,017 Forms ("Dose-Form" in RxNorm) and 5,098 substances ("Ingredient Group" in DPD, "Therapeutic-Moiety" in CCDD and "ingredients" in RxNorm). Active-Ingredient, Strength, Active-Moiety; and Basis-of-Strength defined the Components. The Forms were created on the basis of 127 "Basic-Dose-Form" (in the DPD), 95 "Route-of-Administration" (in the DPD) and 25 Distinction (obtained through the labels of drugs (e.g., Delayed-release)). Overall, CDO was able to capture a formal definition from 49,344 PCCD. The missing descriptions corresponded to kits whose description did not fit our model.

**Conclusion:** CDO was built to ensure the interoperability of drugs-related information through different electronic systems. Future research should integrate CDO entities to UMLS (Unified Medical Language System) concepts. Further work will also focus on the construction of an API, for developers and researchers, for the navigation of CDO terminology.

**Author Names:** Jean NIKIEMA, Centre de recherche du Centre hospitalier de l'Université de Montréal; Aude Motulsky, Université de Montréal

## *Decomposition analysis of the gaps in reproductive health care use in five Sub-Saharan Africa countries*

Mr. Oluwasegun Jko Ogundele, Maastricht University

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Family planning and maternal care services have become increasingly available in West Africa but the level of non-use remains high. This unfavorable outcome may be partly due to the unaffordability of reproductive health care services. This study investigates the wealth-based inequalities in the use of reproductive health care services among women in selected countries in West Africa and identifies the main factors that contribute to these inequalities.

**Approach:** Using Demographic Health Survey data from Burkina Faso, Niger, Nigeria, Ghana, and Senegal, we perform a decomposition analysis to quantify the contribution of maternal socio-demographic characteristics to observed disparities in exposure to mass media family planning information, use of modern contraceptives, adequate use of antenatal care visits, and facility-based delivery between low-wealth and high-wealth women.

**Results:** Differences in characteristics between wealth groups explain at least 40% of the gap in exposure to family planning information, 30% in modern contraceptive use, 36% in adequate antenatal care visits, and 47% of the difference in facility-based deliveries. The wealth-gap is largest in Senegal for modern contraceptive use and adequate antenatal care visits. Parity and cost explain more of the inequality in antenatal visits than facility-based delivery in Burkina-Faso and Senegal. In countries with complete fee exemption policies for sub-groups, Ghana, Niger, and Senegal, the inequality gaps between wealth groups in having an adequate number of antenatal care visits and facility-based childbirth are smaller than in countries with partial or no exemption policies. However, this is not the case for C-section.

**Conclusion:** There is evidence that current policies addressing the cost of maternal care services may increase the wealth-based inequality in maternal care use if socio-demographic differences are not addressed. Public health programs should be context-specific and target poor women to reduce disparities in reproductive health care service use.

**Author Names:** Oluwasegun Jko Ogundele, Maastricht University; Milena Pavlova, Maastricht University; Wim Groot, Maastricht University

# *Epidemiology and Direct Health Care Cost of Inflammatory Bowel Disease in Saskatchewan; A population-Based Cohort Study*

Ms. Jessica Osei, Department of Community Health & Epidemiology, College of Medicine, University of Saskatchewan

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**Category:** Oral Presentation

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Worldwide studies have described an increasing prevalence of inflammatory bowel disease (IBD). Canada is a country with one of the highest IBD prevalence and incidence rates and with an estimated direct health care cost of \$1.2 billion in 2018. Also, evidence shows variations in the incidence rate trends across Canadian provinces. This study aimed to estimate and test the trends in the incidence, prevalence, and direct health care cost of IBD in Saskatchewan from 1999-2016.

**Approach:** Administrative health data were used in a population-based cohort study from 1999-2016 fiscal years. A previously validated case definition was applied to identify individuals with diagnosis of IBD. Generalised linear models with negative binomial and gamma distributions were used to, respectively, model prevalence/incidence and health care cost (hospital, physician, prescription drug) trends. Generalised estimating equations were used to account for correlation in the prevalence data. Sex, age group, and rural/urban residence were included as covariates. Annual prevalence and incidence rates, average annual changes, and direct health care cost (in 2013 Canadian dollars) were reported with 95% confidence intervals (95%CI).

**Results:** In 2016/17, 6,468 IBD cases were observed in our cohort; Crohn's disease: 3,663 (56,6%), ulcerative colitis: 2,805 (43,4%). The prevalence of IBD increased from 341/100,000 (95%CI 340-341) in 1999/00 to 664/100,000 (95%CI 663-665) population in 2016/17, observing a 3.3% (95% CI 2.4-4.3) average annual increase. Also, the estimated health care cost of IBD increased from \$1.8 (95%CI \$1.6-2.0) in 1999/00 to \$7.1 (95%CI \$6.7-7.5) thousand per patient in 2016/17, resulting in a 9.2% (95% CI 8.5-9.8) average annual increase. On the other hand, the incidence rate of IBD declined from 75/100,000 (95%CI 67-84) in 1999/00 to 15/100,000 (95%CI 12-18) population in 2016/17, corresponding to an average annual decrease of 6.9% (95%CI -7.6 to -6.2).

**Conclusion:** In Saskatchewan, the prevalence and direct health care cost of IBD increased remarkably from 1999-2016, and a significant decline in the incidence was observed in the same period. Decision-makers and health care providers need to promote policies that face the rising disease burden, specifically medication treatments and specialized physician care.

**Author Names:** Jessica Osei, Department of Community Health & Epidemiology, College of Medicine, University of Saskatchewan; Juan-Nicolás Peña-Sánchez, Department of Community Health & Epidemiology, College of Medicine, University of Saskatchewan; Sharyle Fowler, Department of Medicine, College of Medicine, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan; Gilaad Kaplan, University of Calgary; Lisa Lix, University of Manitoba

# ADVANCING HEALTH EQUITY AND SUSTAINABILITY: AN EVIDENCE-INFORMED ASSESSMENT TOOL FOR RESPONSIBLE INNOVATION IN HEALTH

Mr. Hudson Pacifico Silva, Université of Montréal

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** While new health technologies raise significant economic, ethical and social issues, the Responsible Innovation in Health (RIH) framework emphasizes the importance of developing technologies that are responsive to system-level challenges and support equitable and sustainable healthcare. To identify the degree of responsibility of innovations at an early stage, we developed and validated the RIH Assessment Tool, which supports an evidence-informed judgment through a three-step process: screening, assessment and rating.

**Approach:** The Tool was developed through an iterative process: key concepts, dimensions and indicators of responsibility were identified through a multidisciplinary scientific literature review; a web-based horizon scanning was performed to identify a large set of innovations with different responsibility features; preliminary versions of the Tool were developed, pre-tested and expert feedback obtained; a two-round Delphi exercise was conducted with four groups of international experts who critically appraised and improved the Tool's constructs; and an inter-rater reliability assessment established the extent to which two raters agree when applying the Tool to a diversified sample of health innovations (n=25).

**Results:** The Delphi study generated a large number of insightful comments (n=280) that improved the Tool's constructs validity. After the second round, consensus was achieved for 80% of the survey items regarding the importance, clarity and appropriateness of the criteria, attributes and scales of the Tool. The final version of the Tool comprises nine attributes assessing responsibility in five value domains: population health (health relevance, ELSIs, inequalities), health system (inclusiveness, responsiveness, level of care), economic (frugality), organizational (business model) and environmental (eco-responsibility). The inter-rater reliability assessment shows complete agreement (Gwet's AC = 1) for the screening criteria, "almost perfect" agreement (>0.81) for seven assessment attributes, "substantial" agreement (>0.61) for two attributes and "almost perfect" agreement (>0.81) for the RIH overall score.

**Conclusion:** The RIH Tool differentiates, at an early stage, innovations that possess key responsibility features from innovations with no particular signs of responsibility. It can now be used by innovation stakeholders (e.g., policymakers, investors, developers, incubators) to foster the development of innovations that support equity and sustainability in health systems.

**Author Names:** Hudson Pacifico Silva, Université of Montréal; Pascale Lehoux, Université de Montréal

## ***"Scary but great": a qualitative study of public perceptions about using health data for artificial intelligence***

Dr. P. Alison Paprica, IHPME, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Previous qualitative research studies have shown generally positive but conditional public support for data-intensive health research. Given widespread interest in using health artificial intelligence (AI) to transform large amounts of health data into actionable knowledge that benefits patients and health systems, there is a need to learn more about the perceptions of members of the general public on using health data for AI.

**Approach:** Six focus groups in October 2019 involving 41 purposively sampled members of the public (21 men and 20 women, ages 25-60 years, median age 40); three in Sudbury, Ontario, three in Mississauga, Ontario. Participants discussed their views on AI in general, then were asked to share their thoughts about three fictional but realistic health AI scenarios. Data were analyzed using qualitative description thematic analysis.

**Results:** Participants had low knowledge and mixed, predominantly negative, views about AI in general. Most supported using AI as a tool for analysis of health data when there is strong potential for public benefit providing that their concerns about privacy, consent and commercial motives were addressed. Inductive thematic analysis identified AI-specific hopes (e.g., potential for faster and more accurate analyses), fears (e.g., lack of human touch, decrease in human skills over time due to over-reliance on machines) and conditions (e.g., human must be in the loop for computer-aided decisions). There were mixed views about whether consent is required, with most participants primarily wanting to know if, how and when their data were used. Realistic health AI scenarios were found to have an educational effect.

**Conclusion:** Notwithstanding concerns and low knowledge about AI in general, members of the general public in six focus groups in Ontario, Canada were conditionally supportive of health data being used for AI.

**Author Names:** P. Alison Paprica, IHPME, University of Toronto; Melissa McCradden, Hospital for Sick Children; Tasmie Sarker, Vector Institute

## *Maternal Health of Federally Incarcerated Women*

Ms. Martha Paynter, Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Women are the fastest growing population in Canadian prisons. The number of women in federal corrections grew 66% between 2005 and 2014. Most incarcerated women are mothers, with an average of four children. It is estimated 5% are currently pregnant. Recent evidence shows infants of incarcerated women have greater risk of prematurity and low birth weight. The incarceration of women disrupts fertility, reproduction and family, particularly among over-incarcerated groups such as Indigenous women.

**Approach:** The purpose of this study is to determine how women experience the perinatal period while federally incarcerated, what services they access, and gaps in programming, services and care. Using a focused ethnography design, I am conducting semi-structured interviews with women who have experienced federal incarceration in any of the six prisons for women, and with community-based advocates who support them. Eligible participants include women who, at any time since 2001, were federally incarcerated during pregnancy, birth or the first two years post-partum. Interviews take place in person or by phone, across the country. The approach to data analysis is thematic analysis.

**Results:** This study is ongoing. Emerging themes include the precarity of participation in the federal Mother Child program in which children may live with their mothers until age 5; restrictive eligibility criteria for the Mother Child program; trauma pre-incarceration and trauma of separation; institutional prioritization of security concerns over mother's health needs; the presence of children in the prison as creating joy and safety for all; challenges with transition to the community; preference for community-based solutions; importance of immediate bonding for strong development of attachment; and low maternal health literacy.

**Conclusion:** This study aims to generate recommendations for clinical care of incarcerated women in the perinatal period, policy governing the Mother Child Program in federal corrections, and considerations for pre-sentencing of mothers and pregnant people.

**Author Names:** Martha Paynter, Dalhousie University

## *Health care disparities between rural and urban patients with inflammatory bowel disease in Saskatchewan: a population-based study*

Dr. Juan-Nicolás Peña-Sánchez, Department of Community Health & Epidemiology, College of Medicine, University of Saskatchewan

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Individuals residing in rural Canadian communities encounter difficulties in accessing adequate healthcare services and persons living with chronic health conditions are particularly disadvantaged. Inflammatory bowel disease (IBD) is a life-long inflammatory digestive condition that has potential disease-related complications if left untreated. Our study aimed to identify health care utilization differences between IBD patients in rural and urban Saskatchewan from 1998 to 2017 fiscal years.

**Approach:** A retrospective population-based study was conducted linking Saskatchewan health administrative databases (i.e. hospital discharge abstracts, physician and medication claims). A validated case definition was used to capture individuals with the diagnosis of IBD. Outpatient gastroenterology visits, colonoscopies, IBD medication claims (i.e. biologics, immune modulators, and 5-aminosalicylic acid—5-ASA), IBD-specific hospitalizations, and surgeries for IBD were measured after the date of diagnosis. Cox proportional models compared outcomes between individuals with rural and urban residence at the date of diagnosis. Models were adjusted by age, sex, and mean neighbourhood income quintile. Hazard ratios (HR) with their 95% confidence intervals (95%CI) were reported.

**Results:** In total, 5,173 incident IBD cases were identified between 1998 and 2018 fiscal years, of which 3,629 (70.1%) resided in an urban location and 1,544 (29.8%) lived in rural areas at the date diagnosis. In comparison with urban residents, individuals with IBD in rural areas were less likely to have access to a gastroenterologist (HR=0.82, 95%CI 0.77-0.88) and to have biologic claims (HR=0.86, 95%CI 0.76-0.99). On the other hand, rural residents were 1.13 (95%CI 1.05-1.21) more likely to have 5-ASA claims than their urban counterparts. There were no statistically significant differences between rural and urban individuals in the risk of colonoscopies (HR=0.98, 95%CI 0.92-1.05), immune modulator claims (HR=0.90, 95%CI 0.81-1.00), IBD-specific hospitalizations (HR=1.00, 95%CI 0.94-1.07), and surgeries for IBD (HR=0.97, 95%CI 0.87-1.08).

**Conclusion:** Compared with urban IBD patients in Saskatchewan, rural patients were at a lower risk of having gastroenterology visits and biologic claims, and a higher risk of receiving 5-ASA therapy. These differences reflect rural-urban inequities accessing specialized IBD care and disease management and require the attention of decision-makers and health providers.

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## *Understanding and addressing inequity in Manitoba FN communities*

Ms. Wanda Phillips-Beck, First Nations Health and Social Secretariat of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Indigenous Health

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** This project is one of several studies within a 5-year program of research entitled Innovation Transforming Community-based Primary Healthcare (CBPHC) in First Nation and rural/remote communities of Manitoba. Our overall goal was to understand First Nations (FN) perspectives of PHC and support initiatives aimed at improving CBPHC in Manitoba FN.

**Approach:** This qualitative study was undertaken to understand specifically what were perceived as barriers and facilitators to health system improvement. We spoke to over 400 FN community leaders, health care providers, staff and community members using local research assistants who were trained in qualitative and quantitative data collection methods. A collaborative, participatory approach was used to understand the meanings behind the stories being told through the data. This was done through community and regional workshops, and by giving data back community specific data in a manner that was understood and could then be utilized to support their own community initiatives.

**Results:** Inconsistent application of policy, unequal distribution of power and resources, lack of attention to social, economic and environmental determinants of health, differences between Western biomedical and traditional Indigenous philosophies, health and healing models are perceived a responsible for perpetuating health inequity in FNs in Manitoba.

**Conclusion:** A deeper look at the issues involved in the health inequity between FN and the rest of Manitoba is needed. Governments must heed the advice of FN's whose control over the health system is fundamental to undo the effects of colonization which is responsible for health inequity.

**Author Names:** Wanda Phillips-Beck, First Nations Health and Social Secretariat of Manitoba; Alan Katz, University of Manitoba; Josée Gabrielle Lavoie, Ongomiizwin Research; Kathi Avery Kinew, FNHSSM



*Screening for Poverty And Related social determinants and intervening to improve Knowledge of and links to resources (SPARK) Study: Results of a multi-site implementation evaluation*

Dr. Andrew Pinto, Upstream Lab, MAP/Centre for Urban Health Solutions, Li Ka Shing Knowledge Institute, St. Michael's Hospital

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Numerous studies confirm the central role of the social determinants in creating and maintaining health inequities. However, few Canadian health organizations routinely collect data at the individual level that would allow inequities to be identified, and that would support interventions to address social needs. Building on previous work, our objective was to evaluate the implementation of routine data collection on sociodemographics and social needs, with integration of this data into electronic health records.

**Approach:** This involved five primary care clinics in Ontario (4 in Toronto, 1 in Kingston). We revised sociodemographic questions created by the Toronto regional health authority, covering language preference, immigration status, race, disabilities, sex assigned at birth and gender identity, and sexual orientation. We also asked about social needs: education, income, prescription drug costs, housing, social isolation, transportation costs, utilities, and precarious employment. For patients who indicated a social need, clinics were equipped with information on community resources. If a patient identified insufficient income, they were referred to a staff member who could identify financial benefits they could receive.

**Results:** Over a three-month period, 1,021 patients were offered the survey on either paper or an electronic tablet by clerical staff when they attended a scheduled or unscheduled appointment. 908 (89%) completed at least one question. For the sociodemographic questions, the completion rate (i.e. did not put "Don't know", or "Prefer not to answer" or left blank) was very high, ranging from 96-99%. Similarly, the questions about social needs had a high completion rate and ranged from 95-96%. Of note, the second part of two-part questions on housing and social isolation had lower response rates, of 86% and 76%. Most patients who identified a social need agreed to receive assistance from clinic staff at that visit, including 59% of patients who reported low income.

**Conclusion:** A survey on sociodemographics and social needs was acceptable and feasible to implement in primary care, with answers linked to electronic health records, and social needs leading to actions. Future research includes a validation study and a randomized controlled trial evaluating the impact of addressing social needs.

**Author Names:** Andrew Pinto, Upstream Lab, MAP/Centre for Urban Health Solutions, Li Ka Shing Knowledge Institute, St. Michael's Hospital; Kris Aubrey-Bassler, Memorial University; Frederick Burge, Dalhousie Family Medicine; Lois Jackson, School of Health and Human Performance Dalhousie University, Dalhousie University; Nazeem Muhajarine, University of Saskatchewan; Cordell Neudorf, Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Alan Katz, University of Manitoba

## *Characteristics and outcomes of medevacs in Labrador: A population-based study*

Dr. Nathaniel Pollock, School of Public Health, University of Alberta

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Aeromedical evacuations (“medevacs”) are an essential service in Canada because they help provide timely access to acute care across a large and diverse geographic area. Yet, in the Canadian context, there is a limited understanding of how, why, and for whom medevacs are used. The primary objective of this study was to examine the characteristics and outcomes of medevacs from northern Indigenous communities in Newfoundland and Labrador, Canada.

**Approach:** We conducted a retrospective, observational study with linked data from a flight registry and clinical records that we collected as part of routine care at a regional health centre in Happy Valley-Goose Bay, Labrador. Our approach was informed by community-based research and the principles and practices for ethical research with Indigenous communities. We collected demographic and clinical data on all patients who were transferred by medevac from coastal communities between January 1, 2009 to December 31, 2015. We used descriptive statistics to analyze the data.

**Results:** We captured 1,122 patient transfers via aeromedical evacuation. The median number of transfers per month during study period was 93 (range 82 to 109). The median number of transfers per year was 161 (range from 136 to 193). The majority of patients were women (56%); 32% were young adults aged 19-39 years old. Three communities accounted for more than half of all medevacs. Trauma (21%), gastrointestinal (15%) with respiratory (15%) and psychiatric (13%) were the most frequent primary diagnoses on transfer. 67% (n=753) of all patients were admitted to the regional hospital; 44 cases were transferred to a tertiary centre.

**Conclusion:** Medevacs are a critical part of the system of care in rural and northern regions. Evidence related to medevac use can support health system stakeholders in tracking performance and making equity-informed planning decisions. Our study provided important information about the frequency and leading reasons for emergency transfers in Labrador.

**Author Names:** Nathaniel Pollock, School of Public Health, University of Alberta; Margo Wilson, Discipline of Emergency Medicine, Faculty of Medicine, Memorial University

## *Intervening in Workplace Harassment with Health Care Workers*

Dr. Elizabeth Quinlan, university of saskatchewan

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Workplace harassment is a pressing occupational health and safety problem. Health care workplaces in Canada have especially high prevalence rates. Most interventions addressing workplace harassment are top-down strategies (eg workplace policies, legislation). In contrast, Participatory Theatre is an embodied activity that aims to empower individuals to become protagonists in their own lives. The objective of this paper is to report on a Participatory Theatre intervention addressing workplace harassment with workers in Saskatchewan's health care system.

**Approach:** The paper makes explicit the challenges, dilemmas, and potentials of Participatory Theatre. The study's intervention included scenarios from the participants' lived experience of harassment. The aim of the scenarios was not to portray 'good' guys and 'bad' guys, but to illustrate harassment as a behavioural manifestation of relations of power and to investigate what prevents well-intentioned people from changing the conditions that give rise to the harassment. The paper's analysis is based on data drawn from intervention workshops and follow-up interviews with the participating health care workers, conducted 6-8 months following the workshops to better capture sustained outcomes.

**Results:** The scenarios developed by the intervention's participants reflected the underlying stories of their everyday lived experience and energized them to become competent contesters of dominant discourses, heighten their reflexivity, and generate group solidarities.

The Participatory Theatre intervention nurtured the development of empathetic bonds between the participating health care workers, fostered by the relational aesthetics of their creative outputs. The study's results provide compelling evidence for the value of involving participants in the co-creation of knowledge that has immediate utility in their workplaces.

**Conclusion:** The paper concludes by advocating for participatory theatre as a 'bottom up' approach of intervening in complex social problems, empowering participants to become protagonists in their own lives by recognizing that social problems, such as workplace harassment, can be experienced individually but have structural antecedents.

**Author Names:** Elizabeth Quinlan, university of saskatchewan

## *Describing the characteristics and healthcare utilization of high-cost acute care users: a pan-Canadian population-based study*

Mr. Danial Qureshi, Ottawa Hospital Research Institute

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** A relatively small number of individuals use a large portion of health system resources, incurring considerable costs. Past Canadian studies have described differences in characteristics and health outcomes of high-cost users at the provincial level, but none have provided a national-level overview. We sought to describe and compare the characteristics, health service use and costs associated with several inpatient usage trajectories.

**Approach:** We conducted a population-based retrospective cohort study of all adult inpatient decedents aged 18 or older across Canada (excluding Quebec) between fiscal years 2011/12 and 2014/15. Patients were categorized based on their acute care cost state over a 2-year period: persistent high users (high user in death year and year prior), episodic high users (high user in death year only) and non-high users (no high use). High users were defined using CIHI's dynamic cohort for highest acute care costs; this definition flags high users as patients within the top 10% of highest cumulative acute care costs.

**Results:** We identified 191,310 decedents, among which 6% were persistent high users, 41% were episodic high users, and 46% were non-high users. High users were more likely to be male, younger, and have higher rates of multiple comorbidities than non-high users. About 28% of persistent high users had  $\geq 2$  ICU admissions, compared to 8% of episodic high users and only 1% of non-high users. About 11% of persistent high users had ALC  $\geq 2$  admissions, compared to only 2% of episodic high users and <1% of non-high users. High users received at least one active intervention more often than non-high users (36% vs. 26%). Despite representing only 47% of the cohort, high users accounted for 83% of acute care costs in the last year of life.

**Conclusion:** High-users often present with medically complex conditions, high needs, and use a disproportionate amount of resources at the end-of-life. A greater understanding of the characteristics and circumstances that lead to persistently high-use of inpatient services may improve strategies that could prevent unnecessary care and off-set costs while improving patient outcomes.

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## *Creation of First Nations Health Profiles through Data Linkage in Manitoba*

Mr. Shravan Ramayanam, First Nations Health and Social Secretariat of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Indigenous Health

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** First Nation peoples (FNs) were not able to identify themselves within administrative datasets due to lack of FNs identifiers, which perpetuates a pan-indigenous approach in advocacy and evaluation capabilities. Linking databases improves the quality and accuracy of FNs health data and offsets the burden of survey fatigue in communities. Creating community profiles helps FNs in creating their own health surveillance systems and identifying health status priorities for communities, Tribal Council and other geographically defined areas.

**Approach:** A resolution was passed in September 2017 to link Indian Status Registry (ISR) file with Manitoba Health Registry, with First Nations Health and Social Secretariat of Manitoba (FNHSSM) and Health Information Research Governance Committee (HIRGC) oversight. This led to the creation of First Nations specific Key Linked file. Scrambled, de-identified and encrypted Personal Health Information Numbers (PHINs) were added to the Key Linked file to create a Manitoba First Nations Research file which is linkable to other databases. Information Sharing Agreements (ISA) have been developed with federal and provincial governments to mandate the processes for data linkage.

**Results:** Manitoba First Nations research file can only be accessed with application to and approval by HIRGC. The research file has been linked to administrative databases at Manitoba Health Senior and Active Living (MHSAL) and Manitoba Centre for Health Policy (MCHP) to create Manitoba First Nations Atlas report and Community Health Profiles, specific to each First Nation in Manitoba. This presentation highlights some of the key findings with regards to Tribal Council (TC), Regional Health Authority (RHA) and on and off reserve differences in prevalence of chronic conditions such as Diabetes, Hypertension, Arthritis, etc. It also delves into how First Nations (on and off reserves) are faring with All other Manitobans (excluding First Nations) with respect to those chronic conditions.

**Conclusion:** Data Linkage is a key process to assert self-determination, strengthen FNs data governance and achieve Data Sovereignty. Linking databases creates opportunities for FNs to access accurate data that will assist their Nations to lead their own health research and program evaluation that are driven by their own needs and priorities.

**Author Names:** Shravan Ramayanam, First Nations Health and Social Secretariat of Manitoba; Leona Star, Nanaadawewigamig

*Strategy for Patient Oriented Research (SPOR): Primary and Integrated Health Care Innovations' (PIHCI) Health System  
Integration Summit: Reflections*

Dr. Vivian Ramsden, University of Saskatchewan

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** In 2019, the SPOR PIHCI Network in Saskatchewan facilitated the first National Conference that explored health system integration. The Objectives were to: build a common and deeper understanding of the status and scope of integrated health care delivery in Canada; explore emerging issues, opportunities for national cooperation and next steps in the growth and development of integrated services, and strengthen the network and community of interest in the area of integrated health care.

**Approach:** Given that health integration was planned or underway in seven provinces in Canada, the Integration Summit (a continuation of a Saskatchewan symposium held in November, 2018) was seen as an opportunity to learn together about system integration in primary health care, the successes, and the challenges. While First Nations peoples account for 2.8% of the total population of Canada, they account for one-tenth of the population in Saskatchewan (10.7%); thus, the desire to have them participate in all aspects of the Summit was seen as being critical. The Program was co-developed with patients/family advisors using participatory processes and evaluation strategies.

**Results:** The Integration Summit was held in April, 2019 and centred around five themes: Integrating Health Care Providers; Integrating Patients; Integrating Indigenous Care and Culture; Integrating the Social Sector; and, Integrating Technology. The one hundred and sixty participants were: patients/family advisors/community members; physicians; health care providers; researchers; health system leaders; and, analysts.

The summative evaluation highlighted: the value of acquiring substantive knowledge of the status and scope of integrated health care delivery in so many different provincial systems; learning about innovations in other systems ranging from technological ideas to new program configurations and models of community partnerships; discussions of emerging issues, common problems, next stages of development and opportunities for national collaboration; and, opportunities to build a network and community of interest/practice in Integrated Care.

**Conclusion:** The findings from the SPOR PIHCI Summit have the potential to inform health services integration in clinical practice, education, research and policy.

**Author Names:** Vivian Ramsden, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan; Margaret Baker, Saskatchewan Ministry of Health; Cordell Neudorf, Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Jackie Crowe-Weisgerber, Department of Academic Family Medicine, University of Saskatchewan; Candace Skrapek, SPOR-PIHCI Leadership Team, University of Saskatchewan; Janice Braden, SPOR Primary and Integrated Health Care - Saskatchewan; Gerry Burgess, SPOR-PIHCI Leadership Team, University of Saskatchewan

## *Standardizing the collection of race and ethnicity data to measure healthcare inequalities*

Dr. Dana Riley, Canadian Institute for Health Information

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** In 2018, we released standards for measuring health inequalities by age, sex, gender, income, education and geography in Canada. Building on this, we are exploring standards to improve the collection of racial and ethnic data. Despite evidence that such information influences the quality, access and outcomes of healthcare, it is not consistently or routinely collected in Canadian healthcare systems. We are engaging stakeholders across Canada to explore the value and acceptability of such data standards.

**Approach:** To inform the development of standards for measuring health inequalities by race and ethnicity, we have conducted literature reviews, environmental scans, and engagement sessions with various individuals and organizations (including researchers, clinicians, and government agencies). A discussion paper for release in Spring 2020 will summarize key learnings to-date on the distinctions between race and ethnicity, as well as considerations for Indigenous identifiers. The discussion paper details evidence for the appropriate collection and use of race and ethnicity data to measure health inequalities in Canada. Key discussion questions are posed on topics where consensus is required to establish pan-Canadian standards.

**Results:** Preliminary findings include (1) race and ethnicity are separate social constructs with no biological basis to the identification of population groups; (2) Indigenous identity is distinct and should be considered independently; and (3) pilot results of Ontario's Anti-Racism Directorate's data standard implemented in primary care settings are promising. Further engagement is required to determine the value and acceptability of pan-Canadian standards. Key information gaps include: understanding the risks and benefits of collecting, analyzing and/or reporting race and ethnicity data; determining whether Indigenous populations should be characterized in the context of race and ethnicity; as well as considering strategies to ensure appropriate race and ethnicity data collection, use and interpretation.

**Conclusion:** Canada's racial and ethnic diversity continues to steadily increase each year, and Indigenous people in Canada are the fastest growing demographic group within the country. Standardized collection and use of these identifiers can support the reduction of health and healthcare inequalities for these growing population subgroups.

**Author Names:** Dana Riley, Canadian Institute for Health Information; Geoff Hynes, CIHI; Jean Harvey, Canadian Institute for Health Information ; Maegan Mazereeuw, Canadian Institute for Health Information; Meredith Nichols, Canadian Institute for Health Information; Harshani Dabere, Canadian Institute for Health Information; Clement Li, Canadian Institute for Health Information

*A patient led, peer-to-peer qualitative study on the psychosocial relationship between patients with IBD and food*  
Ms. Jenna Rines, PaCER / University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Inflammatory Bowel Diseases (IBD) are chronic gastrointestinal illnesses thought to be partly influenced by diet. Patients report that IBD negatively affects their enjoyment of food, contributing to feelings of isolation during social and cultural gatherings. Such experiences may promote psychosocial challenges, an aspect of IBD often understudied in clinical and research settings. This study explores the experiences of young adults with IBD and how their relationship with food may be impacted.

**Approach:** We used the PaCER (Patient and Community Engagement Research) framework to capture the authentic patient voice by purposively sampling and involving patients in a stepwise iterative process. We conducted one SET focus group (n=6) to identify issues of utmost importance to our patient consultants; one COLLECT focus group (n=4) and four narrative interviews to gather data; and one REFLECT focus group (n=5) to consolidate our findings. Our experience as patients provided an environment where participants were comfortable uncovering the depth of their experiences, revealing robust data. Drawing from grounded theory, we analyzed data using inductive coding to identify emerging categories.

**Results:** Emerging categories were: Experimenting With Food; Evolution Over Time; Diet Changes Are Emotional; Role of Stigma. Participants identified "Experimenting with Food" as most important as it normalized diet as an individualized experience involving repeated testing for compatible food. They emphasized the importance of maintaining a sense of hope throughout and the vital process of gaining knowledge/experience over time. Participant recommendations included: 1) Creating a centralized resource and referral website with facts and contact information of specialized clinicians; 2) Creating a working group of clinicians and patients to determine clinical guidelines that help patients experiment with diet; and 3) Recording and sharing patient stories about their experiences with food more widely to encourage increased awareness of issues and messages of hope amongst patients and IBD clinicians.

**Conclusion:** Participants experienced numerous psychosocial challenges as they strived to manage their diet, noting gaps in practical clinical knowledge and structured supports available from IBD clinicians. We recommend further patient-engaged research in this area to build a body of practical knowledge that helps IBD patients maintain hope while managing their illness.

**Author Names:** Jenna Rines, PaCER / University of Calgary; Sunny Loo, PaCER / University of Calgary; Kim Daley, PaCER / University of Calgary; Deirdre Walsh, PaCER / University of Calgary; Kwestan Safari, PaCER / University of Calgary



## *Patients' and Caregivers' Perspectives on Communication in the Referral-Consultation Process*

Ms. Kinza Rizvi, Alberta Health Services

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Patient-physician communication plays a critical role in the referral-consultation process where patients and caregivers interact with multiple healthcare providers. Poor communication negatively impacts patient health outcomes, satisfaction and adherence to treatment. This study aimed to seek better understanding of patients' and caregivers' experiences of referral-consultation communication, the degree of satisfaction with the current referral process, and perspectives on getting advice and receiving communication electronically.

**Approach:** Mixed methods approach was used to collect qualitative and quantitative data from patients and caregivers who had been referred to specialists in Alberta or other provinces. Four focus groups were conducted, either in-person or via teleconference, with 16 patients and four caregivers from urban and rural communities in Alberta. A semi-structured interview guide was used to facilitate the discussions. Thematic analysis was conducted on the transcripts and field notes using NVivo Pro 12. An online survey was also completed by patient and caregivers between October and December 2019, and descriptive data analysis was conducted to analyze this data.

**Results:** Patients' and caregivers' views from the focus groups discussions were centred around two main themes: quality of referral-consultation communication, and impact of communication on patient care. Participants reported inadequate communication exists between patients, family physicians and specialists. Incomplete information and deficient communication impacted their continuity of care, led to inappropriate referrals and caused delays, which resulted in serious health consequences. Of the 1475 survey responses, only 47% were satisfied with the referral process and less than 33% reported getting updates from providers about their referral statuses or wait times. Most respondents (93%) would be comfortable with physicians seeking advice from specialists electronically to support their care, and the majority (60%) preferred to receive referral information by email or via an online patient portal.

**Conclusion:** Effective communication is an integral part of the referral-consultation process; however participants reported inadequate communication exists between healthcare providers and patients. Communication can be improved by engaging patients and caregivers in health conversation and introducing innovative initiatives such as electronic advice and notifications to improve overall patient experience.

**Author Names:** Kinza Rizvi , Alberta Health Services; Annabelle Wong, Alberta Health Services; Yong Li, Alberta Health Services; Aminat Aremu, Alberta Health Services

## *The Effect of Community of Residence on Length of Stay for Unplanned Hospitalizations.*

Ms. Alysia Robinson, Dalhousie University, Department of Community Health and Epidemiology

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Community factors may influence the decision to discharge a patient from hospital, and thus may be associated with hospital length of stay (LOS). However, currently used hospital LOS risk adjustment measures, used to measure hospital performance, rarely account for community. We estimate the extent to which community affects adjusted LOS for unplanned hospitalizations, whether this differs by complexity of patient needs, and identify communities with significantly different LOS from the provincial average.

**Approach:** This descriptive study employed hospital discharge abstract data. The study population included Nova Scotians aged 30 years and older residing in 77 communities (Forward Sortation Areas), with at least one unplanned inpatient hospitalization between fiscal years 2010-2014. LOS was adjusted for patient case-mix using age-sex groups, end-of-life, 25 conditions, and multi-morbidity. Complexity was defined using Resource Intensity Weights. Using random intercept regression models, we estimated variation in LOS explained by community of residence, and whether this was more pronounced based on the complexity of patient needs. Small-area empirical Bayes estimates of adjusted LOS for individual communities were estimated and mapped.

**Results:** Overall, community of residence was significantly associated with case-mix adjusted LOS; communities one standard deviation away from the provincial average had an adjusted LOS delta of 4.5% (95% CI 3.5% - 5.8%). Ten communities had significantly longer (three of which were identified in previous work as having high rates of high-cost healthcare use and unplanned repeat hospitalizations), and six had significantly shorter adjusted LOS than the provincial average. Community variation in case-mix adjusted LOS differed between persons with lower and higher complex needs ( $p < 0.0001$ ). Variation was more pronounced among those with lower, as compared to those with higher, complex needs, with the proportionate difference of being one standard deviation away from the provincial average of 49.3% (95%CI 50.4-69.8%) and 4.7% (95%CI 2.8%-8.1%), respectively.

**Conclusion:** Community of residence is associated with case-mix adjusted length of hospital stay. Adjusted LOS measures for communities may indicate their ability to support transitions from hospital to home, and thus identify regions within which to target research, and improvements in transitional care and supports.

**Author Names:** Alysia Robinson, Dalhousie University, Department of Community Health and Epidemiology; George Kephart, Community Health and Epidemiology, Dalhousie University; Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology; Leslie Anne Campbell, Dalhousie University; Pantelis Andreou, Dalhousie University, Department of Community Health and Epidemiology ; David Stock, Maritime SPOR SUPPORT Unit; Grace Warner, Dalhousie University

## *Gender differences in the utilization of group and online prenatal education services*

Dr. Geneviève Roch, Université Laval

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Prenatal education is a core component of perinatal care and services provided by health institutions. Besides group prenatal education, the most common educational model, some health institutions have opted to implement online prenatal education to address accessibility issues as well as the evolving needs of expectant parents. This study's purpose is to describe gender differences in the utilization of group prenatal education (GPE) and online prenatal education (OPE) services for expectant mothers and fathers.

**Approach:** In a prospective cohort study, exploratory descriptive analysis was carried out on a preliminary sample of 463 pregnant women and 150 partners residing in territories served by two Integrated Health and Social Services Establishments (IHSSSE) offering GPE and OPE services. Data were collected twice, at the 24th and 34th gestational weeks, using an online questionnaire. The sections of the questionnaire covered by this analysis were administered at the 34th gestational week and were used to document the utilization level of GPE or OPE services and exposure to the eight common themes of both services.

**Results:** Overall, 25% of respondents have used GPE services provided by one of the two IHSSSEs, while this proportion rises to 70.8% for the utilization of recommended OPE services. In comparison, women reported having used OPE services more often than partners ( $p < .001$ ). There was no significant difference regarding GPE services utilization. Among all participants, women were significantly more exposed to the following themes: pregnancy and prenatal lifestyle habits ( $p < 0.001$ ); labor and delivery ( $p < 0.001$ ); and breastfeeding ( $p < 0.005$ ). Excluding participants who had not used any of the recommended services, partners were significantly more exposed than women to themes such as postnatal health and newborn care. These findings are of major importance regarding the gender distinctive utilization of GPE and OPE services.

**Conclusion:** As the introduction of new educational technologies is increasing in health organizations and with prenatal education being part of a logic addressing pregnant women and their partners, it is essential to consider their utilization level to ensure that the services offered can reach them from a family health perspective.

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## *Segmenting persistently high-cost individuals into actionable groups*

Dr. Paul Ronksley, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Five percent of health care users account for 65% of costs. Despite a growing body of evidence describing high cost patients, decision-makers are still struggling to implement effective strategies to both improve care and curb spending in this population. In partnership with Alberta Health Services - Strategic Clinical Networks (SCN), we have developed a multi-pronged and phased approach to disentangle the problem of high cost patients into more homogeneous sub-groups amenable to targeted interventions.

**Approach:** For the initial phase of this pan-SCN initiative, we linked population-level administrative health data for all adults in Alberta from April 2012 to March 2017, including demographics and the cost and characteristics of their inpatient, outpatient, emergency department encounters, and medication use. We defined “high-cost” as those in the top 1% of cumulative cost across all sources in a given fiscal year, and “persistently high-cost” as those who were high-cost in at least two consecutive fiscal years. We used latent class analysis informed by expert clinical opinion to separate this persistent high-cost population into potentially actionable subgroups.

**Results:** Of the 3,795,067 adults residing in Alberta for at least two consecutive years, 131,520 were ‘high-cost’ in at least one year, and 21,361 were ‘persistently high-cost’. Latent class models identified 10 high-cost subgroups: individuals with chronic kidney disease (19.3% of persistent high-cost individuals), those undergoing joint surgery/replacement and rehabilitation (18.6%), individuals with inflammatory bowel disease (11.6%), patients receiving biologics and other therapies for autoimmune conditions (11.3%), patients receiving high cost drugs for other conditions (11.1%), community-dwelling individuals with multimorbid chronic conditions (9.0%), individuals with schizophrenia (6.8%), individuals with other mental health issues (6.2%), rural individuals with COPD and other respiratory conditions (3.4%), and frail elderly in institutional settings (2.7%). These groups were classified based on meaningful differences in health care spending, demographics, and clinical diagnoses.

**Conclusion:** This taxonomy will inform subsequent phases of this work including the identification of interventions shown to improve care and reduce cost for each sub-group in addition to consultation with key stakeholders to identify and reflect on key barriers and facilitators to implementing identified interventions within the local context.

**Author Names:** Paul Ronksley, University of Calgary; James Wick, University of Calgary; David Campbell, University of Calgary; Reed Beall, University of Calgary; Brenda Hemmelgarn, University of Calgary; Marcello Tonelli, University of Calgary; Braden Manns, University of Calgary

## *Building capacity in research through development of a regional network of experts*

Dr. Jeff Round, The Institute of Health Economics

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** There is a need for greater development in health economics (HE) capacity in Canada, both nationally and regionally. There is also need for greater collaboration between health economics researchers and policy makers. Alberta has supported the development of The Network of Alberta Health Economists (NOAHE) to address that need by providing a centralized hub for research creators, users, policy makers, students and frontline healthcare staff to connect through activities focused on promoting integrated knowledge transfer.

**Approach:** NOAHE was developed to support health economics capacity building through two mechanisms. The first is increased knowledge transfer between established professionals in health economics and health policy through regular events such as seminars and an annual research meeting. The second was the development of opportunities for students in health economics and cognate disciplines to gain exposure through training and work experience opportunities. NOAHE has also hosted events that provide knowledge users and producers with the tools and knowledge to become more efficient and effective requesters, consumers, and users of health economics findings and research.

**Results:** Over a three-year period, NOAHE membership increased from 33 to 100. Members are actively engaged in NOAHE events. An annual research meeting brings together students, academics, policy-makers and health-system staff. Attendance has increased from 30 in 2017 to 56 in 2019. The NOAHE seminar series also has high levels of engagement, with a mean of 31 people attending each 2018-19 seminar. Student development continues to be a focus, with NOAHE funding two one-year post-doctoral fellowships and two internships for current or recent masters-level students. The NOAHE website acts as a central communication hub with member and activity lists, and publication repository. Engagement with mail-out materials is higher than industry average for non-profits and engagement rate on social media is high.

**Conclusion:** NOAHE has been successful in increasing health economics capacity in Alberta. NOAHE will continue to support engagement between researchers, policy-makers and students, and encourage knowledge translation between users and producers of health economics evidence. NOAHE will continue current engagement activities, while pursuing additional innovative ways to build capacity in Alberta.

**Author Names:** Jeff Round, The Institute of Health Economics; Kate Harback, The Institute of Health Economics; Nicole Riley, Institute of Health Economics

## Health Technology Assessment Methods for Research Oriented Market Access

Dr. Jeff Round, The Institute of Health Economics

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Publicly funded drug programs frequently face budgetary pressures and require strong evidence to support funding decisions. Such programs require cost-effectiveness analyses (CEA) to inform listing decisions, but the quality of evidence can be limited and further evidence is costly to generate. We propose life cycle health technology assessment (LC-HTA) methods to assess the value of generating real world evidence (RWE) through research-oriented market access, and methods to incorporate RWE in LC-HTA.

**Approach:** We reviewed the state-of-the-art methods proposed for LC-HTA in research-oriented market access. While a body of literature exists to support the valuation of further clinical research, we found a lack of methodological work on real world evidence (RWE) generation, synthesis, and reanalysis. Building from the value-of-information methods available, we developed a methodological process to address issues particular to research-oriented market access and RWE synthesis and reanalysis. In particular, we focused on market access approaches which would allow routine or administrative data assets to be leveraged for data collection and reanalysis.

**Results:** We develop a methodological process and guidance which builds from standard CEA and value-of-information methods, to allow multiple research-oriented market-access agreements to be compared, and to facilitate RWE reanalysis for decision making. Methods for the implementation of rapid expected value-of-partial-perfect-information (EVPPPI) are developed to determine at an early analytic stage if there is a positive social value to RWE generation through research-oriented market access. Simulation methods are developed to construct simulation models for the uptake of the drug, and the simulation of RWE generation based on uptake to identify the optimal terms and design of a market access agreement. RWE reanalysis methods are developed to facilitate iterative Bayesian updating of prior parameter distributions, including bias adjustment and advanced evidence synthesis components.

**Conclusion:** Life-cycle HTA and managed-access approaches to adopting promising therapies are a viable solution to the challenges faced by publicly funded drug plans. Our approach could lead to improved access to novel therapies for patients, increase the standard of evidence available to decision-makers, and support public payers in making funding decisions

**Author Names:** Jeff Round, The Institute of Health Economics; Erin Kirwin, Insitute of Health Economics; Gareth Hopkin, Insitute of Health Economics; Christopher McCabe, Insitute of Health Economics

*A comparative historical (1998-2018) analysis of policy change affecting primary care practice patterns in three provinces (British Columbia, Nova Scotia and Ontario)*

Dr. David Rudoler, University of Ontario Institute of Technology

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Despite Canada's high ratio of primary care providers (PCPs) to population, some continue to face barriers to care. Recent changes in practice (i.e., volume and service mix) may explain the disparity between supply and demand. The Early-Career Primary Care (EPCP) study aims to understand how PCP practice has changed, what factors contributed to these changes, and implications this has for the supply of primary care. One factor of interest is an evolving policy context.

**Approach:** We used Google Scholar's advanced search function to scan the websites of government departments, self-regulatory colleges and physician stakeholder groups for relevant federal and provincial (Nova Scotia, Ontario and British Columbia) policies implemented between 1998 to 2018. A researcher reviewed search results in each jurisdiction. Each document was assessed for relevance against inclusion criteria (i.e., included descriptions of policies/programs related to health human resources, models of care, scope of practice, physician payment, training, recruitment, and/or retention). Data was extracted and charted to form a timeline of key policies, which was assessed for credibility by key informants in each jurisdiction.

**Results:** Preliminary results reviewed over 200 policies and programs (British Columbia = 73, Federal = 48, Nova Scotia = 103, Ontario = 83). Policies were categorized according to Christopher Hood's NATO Taxonomy of policy instruments (Nodality, Authority, Treasure, and Organization). Policies were also assigned a category: Strategy, Regulation, Payment models, Payment incentives, Education, Organizational model, Professional/Practice Standard/Guideline, Other, with Payment incentives being the most commonly-applied category. Categories were determined inductively throughout the policy review process. Results indicate some variation in policy approaches within provincial jurisdictions, but less variation between provinces, particularly between NS and BC. Results also suggest that there has been very little change in the approaches governments use over time, with similar policy categories present across the twenty year period.

**Conclusion:** The results of this scan will inform the quantitative (administrative health data analysis) and qualitative (individual semi-structured interviews with PCPs) arms of the ECPC study. These results will also highlight the policy mix governments have employed to influence the supply of primary care.

**Author Names:** David Rudoler, University of Ontario Institute of Technology; Ruth Lavergne, Simon Fraser University; Amanda Pollicino, Simon Fraser University; Madeleine McKay, Dalhousie University; Michael Le, University of Ottawa

## *Primary antenatal care provider perspectives regarding anxiety and depression during pregnancy: implications for healthcare priority-setting*

Ms. Julia Santana Parrilla, University of British Columbia

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Perinatal mental health is a global public health issue. Up to 1/5 women will experience depression associated with pregnancy and childbirth, and 1/3 women may experience anxiety symptoms during pregnancy. Both are associated with life-altering impairments that burden Canadians and our healthcare system. I interviewed a purposive sample of primary antenatal care providers (n=12) and describe barriers/facilitators to the improvement of Canadian perinatal health outcomes, and the efficiency and comprehensiveness of care/service provision.

**Approach:** I undertook semi-structured 1-on-1 interviews with a purposive sample of 5 General Practitioners, 4 Midwives, and 3 Obstetrician-Gynecologists (n=12) in Vancouver, BC. I employed an inductive approach to explore the clinical phenomena of addressing anxiety and depression (AD) during pregnancy, and Interpretive Description to transmit the value of all expressed perceptions. With growing appreciation for the effects of AD during pregnancy, it is important to close the gap between what is known and what is being done. This project offers insights to this, leveraging participant knowledge and skills to generate change and improve perinatal health outcomes.

**Results:** This research generated new knowledge on current practices to inform every level of care priority-setting (research, practice, program, and policy) that responds to the needs of pregnant people experiencing AD. Descriptions of barriers/facilitators participants (n=12) face in identifying and managing cases of anxiety and depression (AD) during pregnancy, as well as their knowledge needs in doing so are presented. Participants reported seeing AD habitually in their care settings. Although all participants described how they are trying their best, they identified systemic factors they perceive as hinderances to their ability to support their patients' mental health. Limited by their training, professional demands, care continuity, and availability and awareness of resources, system support is necessary to minimize the burdensome outcomes associated with poorly managed AD during pregnancy.

**Conclusion:** This research offers suggestions for promoting transformational changes to perinatal health care and outcomes. Perinatal care offers unique opportunities to lead the integration of mental health in our health systems. At every level, efforts need support toward raising awareness and filling gaps in training, care provision, and resources.

**Author Names:** Julia Santana Parrilla, University of British Columbia



## *Long-term trends in comorbid medical and psychiatric hospitalizations among children and adolescents in Ontario, Canada.*

Dr. Natasha Saunders, The Hospital for Sick Children

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Psychiatric conditions are common in hospitalized children and comorbid psychiatric and medical conditions contribute to length of stay and hospital costs. Understanding the extent of psychiatric comorbidity is important for appropriate resource allocation for mental health support in hospitalized patients and for case-mix adjustment in health system performance measurements. We sought to describe trends in pediatric hospitalizations for comorbid medical and psychiatric health conditions over 15 years and compare them to hospitalizations without psychiatric comorbidity.

**Approach:** All 3- to 17-year-olds hospitalized in Ontario, Canada between 2003 - 2017 were identified. Using discharge diagnoses in health records, hospitalizations were assigned to 1 of 4 groups: 1) medical diagnosis only, 2) psychiatric diagnosis only, 3) primary medical diagnosis with psychiatric comorbidity, and 4) primary psychiatric diagnosis with medical comorbidity. Hospitalization trends were described and compared between the four groups. Sociodemographic, hospital type (pediatric, academic non-pediatric, community), and provider (pediatrician, psychiatrist, no pediatrician or psychiatrist) characteristics were also described.

**Results:** Between 2003-2017, there were 689,361 pediatric hospitalizations: 127,992 (18.6%) had a discharge diagnosis with 1+ psychiatric diagnosis. 561,369 (81.4%) for medical diagnoses only, 63,514 (9.2%) for psychiatric diagnoses only, 23,537 (3.4%) medical with comorbid psychiatric diagnoses, and 40,941 (5.9%) psychiatric with comorbid medical diagnoses. Medical-diagnoses-only hospitalizations declined by 16.9% (41,916 to 34,830 hospitalizations). Psychiatric-diagnosis-only hospitalizations increased by 112.6% (3229 to 6866 hospitalizations), medical hospitalizations with psychiatric comorbidity increased by 109.9% (977 to 2051 hospitalizations), and psychiatric hospitalizations with medical comorbidity increased by 81.4% (2055 to 3727 hospitalizations). Of hospitalizations with any psychiatric diagnosis, 21.6% of were at pediatric academic centres, 21.2% at other academic centres, and 57.2% at community hospitals. 17.2% of any psychiatric hospitalizations did not have a visit from a pediatrician or psychiatrist.

**Conclusion:** Pediatric hospitalizations with comorbid psychiatric diagnoses have increased over time with a concomitant decline in medical diagnosis only hospitalizations. Health care provider training, hospital resourcing, and health system planning must consider how best to accommodate the increasing acute psychiatric care needs of hospitalized children and adolescents.

**Author Names:** Natasha Saunders, The Hospital for Sick Children; Sima Gandhi, ; Maria Chiu, Institute for Clinical Evaluative Sciences ; Alene Toulany, University of Toronto / Hospital for Sick Children; Scott Emerson, ICES; Simone Vigod, Women's College Hospital; Paul Kurdyak, CAMH; Elisabeth Yorke, Hospital for Sick Children; Kinwah Fung, Institute for Clinical Evaluative Sciences; Astrid Guttman, ICES

## *Advancing Health Equity in Cancer Care: The Lived Experiences of Poverty and Access to Lung Cancer Screening*

Dr. Ambreen Sayani, St. Michael's Hospital

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Cancer

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The use of low-dose CT (LDCT) to detect early-stage tumors that are amenable to treatment can lower lung cancer related mortality. Screening with LDCT is currently being piloted as a provincially run program in Ontario. There are however, health equity concerns for individuals living with low income as they are more likely to smoke, have a higher risk of lung cancer, and are less likely to participate in preventative healthcare such as cancer screening.

**Approach:** We sought to contextualize the lived experiences of poverty and the choice to participate in lung cancer screening. Our study was based at three academic primary care sites in downtown Toronto. We identified high risk patients based on the Tammemagi risk index; collected sociodemographic data; conducted qualitative interviews with patients eligible for screening with LDCT who chose to screen (n=8); and patients who declined to undergo screening (n=10). Using the qualitative research methodology of theoretical thematic analysis we systematically organized, described, and interpreted the data into thematic maps using the morphogenetic approach as a guiding theoretical lens.

**Results:** By placing lay knowledge of those with lived experiences as the pivot of our analyses our study was able to demonstrate how living and working conditions shape a trajectory of social disadvantage over the life course which manifest as lifestyle choices such as smoking and an elevated health risk of developing lung cancer. Subsequently these experiences impact the need and ability to seek care. We identify three themes: Pathways of disadvantage, lung cancer risk and early detection, and safe spaces of care; and illuminate how 'choice' is contextual to the availability of material resources such as income and housing, and how 'choice' is influenced by having access to spaces of care that are free of judgement and personal bias.

**Conclusion:** Underserved populations will require multiprong interventions that work at the individual, system and structural level to reduce inequities in health. These findings have practical implications for the implementation of organized lung cancer screening programs so that inequities in lung cancer that are preventable by cancer screening can be minimized.

**Author Names:** Ambreen Sayani, St. Michael's Hospital ; Aisha Lofters, St. Michaels Hospital/ Department of Family and Community Medicine, University of Toronto /Dalla Lana School of Public health

## *Collaborative Governance for Integrated Care: A Case Study of a Neighbourhood Care Model in Toronto, Ontario*

Ms. Simone Shahid, Women's College Hospital Institute for Health System Solutions and Virtual Care

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**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Community support services and home care (CSS/HC) delivered in community settings are essential components of an equity-enhancing health system. The Neighbourhood Care Model (NCM) represents an approach to building stronger coordination between CSS/HC, focused especially on those with complex health and social needs. In this presentation, we report a case study of one NCM focusing on the team's approach to governance, and identifying ways that governance agreements influenced their capacity for more collaborative, coordinated care.

**Approach:** We use Yin's (2008) case study methodology to assess the governance of one NCM, and analyze the case drawing on Ansell and Gash's (2008) model of Collaborative Governance. Data were collected through qualitative interviews (n= 10) and document review (n=5). We used thematic analysis drawing on collaborative governance to structure the analysis.

**Results:** Based on preliminary thematic analysis, we present an interpretation of the NCM governance model and highlight collaborative governance best practices from Ansell and Gash's model. We found that starting conditions and facilitative leadership were constructive of a strong collaborative governance approach. Active member participation and consensus-based decision-making have led to high levels of trust between partners and minimal power imbalances. Ongoing efforts to strengthen established partnerships enables the NCM to better coordinate their services to meet patients' needs. Varied commitment to the model challenges the collaborative process but a stronger institutional design could evoke greater commitment among partners. Without a clear description of a governance model, partner roles, a vision statement and a timeline to track goals, the sustainability of the NCM is unclear.

**Conclusion:** While this specific case successfully implemented their Neighbourhood Care Model, a review of Ansell and Gash's model of Collaborative Governance suggests multiple opportunities for improved collaboration. By improving their collaboration across intersectoral stakeholders, this NCM could better address the specific needs of their population including their social determinants of health.

**Author Names:** Simone Shahid, Women's College Hospital Institute for Health System Solutions and Virtual Care; Dara Gordon, Women's College Hospital Institute for Health System Solutions and Virtual Care ; Tyla Thomas-Jacques, Women's College Hospital Institution for Health System Solutions and Virtual Care; Suman Budhwani, Women's College Hospital Institute for Health System Solutions and Virtual Care; Sophie Hogeveen, Women's College Hospital; Jay Shaw, Women's College Hospital

## *Informal Caregiving: Implications for Healthcare Expenditures*

Mrs. Sara Shearkhani, Institute of Health Policy, Management, and Evaluation, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Informal caregivers' contribution to the healthcare systems is economically significant. Caregivers, however, report substantial consequences such as a decline in their health and a higher use of healthcare services due to their caregiving responsibilities. While many studies have explored these outcomes using self-reported measures, use of administrative databases to substantiate such claims is rare. The objective of this study was to examine the impact of caregiving on healthcare utilization amongst informal caregivers.

**Approach:** The outcome was total healthcare expenditures in Ontario. The exposure was measured as self-reported role as a primary caregiver that started within 5 years of the date of completing the 2008/09 Canadian Community Health Survey – Health Aging Supplement; the comparison group was those who did not self-identify as caregivers in the survey. Healthcare costs of caregivers and non-caregivers were compared pre/post reported caregiving or proxy start date using a difference-in-differences design. Both one and two-year periods of healthcare utilization were examined. The study period was 2002 to 2011. Generalized Linear Models were used for analysis. Sensitivity analyses were conducted.

**Results:** The sample size was 4725 (1265 caregivers; 3010 non-caregivers). The average age was 62.6 and 67.7 for caregivers and non-caregivers, respectively. Nearly 60% of caregivers and 54% of the non-caregivers were female. Adjusted total healthcare costs for caregivers were 12.23% and 12.78% lower than non-caregivers, one year and two years into caregiving, respectively.

**Conclusion:** We found that healthcare utilization increased by a lesser amount amongst caregivers than non-caregivers. If caregivers' health has not similarly improved relative to non-caregivers, this suggests that caregivers may not have time for self-care. This calls for careful consideration of caregivers needs in design and economic evaluation of healthcare interventions.

**Author Names:** Sara Shearkhani, Institute of Health Policy, Management, and Evaluation, University of Toronto; Walter Wodchis, University of Toronto; Geoffrey Anderson, Institute of Health Policy, Management and Evaluation of University of Toronto; Kerry Kuluski, University of Toronto

## *Harris-Todaro Model for Physician Migration*

Mr. Michael Sherar, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** The 21st century has seen record high prices for oil, including a steady climb past \$100 per barrel at the start of 2008 to a peak of \$145.85 per barrel. Canada's resource inequality meant provinces who were traditionally relied on international medical graduates (IMGs) had resources to incentivize Canadian physicians to relocate (Marchildon & Sherar 2018). The Todaro-Harris model is an economic migration model suitable for analysis of the market for Canadian physicians.

**Approach:** The Todaro-Harris Model is a model of labour traditionally used in development economics for the transition between a rural and urban (manufacturing sector). However, the assumptions it relies upon are applicable to the pan-Canadian market for physicians with few modifications. The modified model introduces new assumptions (generated by the specific reality of physician practice in Canada) and the resulting predictions were examined. Evidence was examined to see if there was empirical support for the conclusions and predictions of the model.

**Results:** The predictions of the model are that an increased wage level will increase migration, but will be reciprocated by increasing levels in competing jurisdictions and maldistribution of labour resources. This is supported by the increasing levels of physician compensation in tandem with the period of rising oil revenues (Grant & Hurley 2013), similarly timed increase in fee schedule increases across Canada, and the general literature findings of income as a determinant of physician migration (e.g., Benarroch & Grant 2004). The evidence around maldistribution of physicians is less robust, as it is generally hampered by limited data on non-economic migration considerations (such as family characteristics). The aggregate trends, however, support the conclusions made by the model.

**Conclusion:** The model makes predictions that are seemingly borne out by observation with respect to physician migration within Canada. There are lessons to be drawn from the conclusions the model draws, which must be considered before implementing any potential policy solutions to avoid exacerbating the issues.

**Author Names:** Michael Sherar, University of Toronto

*The Best Care COPD (BCC) Program: Spreading integrated models of team-based for chronic disease management*  
Dr. Shannon Sibbald, Western University

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**Category:** Oral Presentation

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** In Canada, there is agreement about the need for integrated models of team-based care, while less agreement on how to support their scale-up and spread. It is unknown which mechanisms are involved and there is limited evidence to support this in chronic disease management. The program was developed by Asthma Research Group Inc. and is being implemented in over 50 sites in Ontario. We are studying the implementation, spread, and sustainability of this integrated model.

**Approach:** Our entire research process is grounded in an engagement paradigm and an integrated KT approach. Our evaluation involves a mixed-methods case study design, which is comprised of a diverse set of innovative data collection methods including: living documents, a survey, site visits, document analysis, and focus groups. Participants include both healthcare providers involved with the BCC program and patients and caregivers. Our goal is to develop a comprehensive understanding of the implementation, spread, and sustainability of the program across multiple contexts.

**Results:** Preliminary findings strongly support the program's applicability in various chronic disease contexts. Preliminary data indicate that a majority of patients benefited from the program. Most patients demonstrated a strong desire to be engaged in their care and to manage their disease. The BCC program empowered patients through increased access to education, tools, and care providers. Most physicians were very interested in the BCC program and frequently referred patients that they believed would benefit from it. Active physician support was considered a key factor in the implementation of the BCC program across all sites. This study provides us with practical knowledge and key insights to support the application of integrated models of team-based care within the broader context of chronic disease management.

**Conclusion:** We expect that this study will yield two key outcomes: (1) a description of the spread and sustainability of an integrated model of team-based care for patients with COPD; (2) a categorization of the mechanisms of, and barriers and facilitators to spread and sustainability of integrated models of team-based care.

**Author Names:** Shannon Sibbald, Western University; Vaidehi Misra, Western University

## *Overview of a rapid review of the optimization of nursing roles in primary care and emergency settings: Opportunities for advancing health equity within the Nova Scotia health system*

Dr. Meaghan Sim, Nova Scotia Health Authority; Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Myriad challenges affect health workforce planning in Nova Scotia. Rural geographies create additional considerations to ensure equitable access to timely and relevant services and supports. Optimization of nursing roles has potential to address priority system challenges, including addressing unmet health care needs in rural communities. Our study seeks to understand how better optimization of nursing roles could address the complex health and social needs of Nova Scotians.

**Approach:** We employed a mixed-methods rapid review approach (November 2019 – February 2020) to examine nursing optimization within primary and emergency practice settings in Nova Scotia. Optimization of various nursing roles was explored including Registered Nurses, Nurse Practitioners, and Licensed Practical Nurses. Our review included the integration of data from the following sources: 1) document analysis from relevant peer-review systematic reviews and local reports; 2) mapping of collaborative care for patients with complex needs; 3) patient and provider surveys; and 4) 1:1 and focus group interviews with purposively selected practice sites and health system nursing leadership.

**Results:** Early findings suggest that optimization of nursing roles is complex and influenced by several factors including population needs, practice and community characteristics, education and policies. Recent regulatory changes have been supportive; however, gaps persist in organizational policies that restrict full utilization and optimization of nursing roles. This contributes to a loss in the potential impact of nurses on patient outcomes including equitable access to health care. We anticipate from a full analysis of our data to report on the facilitators and barriers to optimizing nursing roles within Nova Scotia. This will include considerations for how nurses could be better utilized to address the complex health and social needs of Nova Scotians who live in rural communities.

**Conclusion:** This study will contribute new understanding for health workforce planning for nurses and other health professionals working collaboratively in primary and emergency care. Optimization of these roles will provide an opportunity to address gaps in unmet needs and equitable access to health services and supports.

**Author Names:** Meaghan Sim, Nova Scotia Health Authority; Dalhousie University; Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority; Ruth Martin-Misener, Dalhousie University; Tanya Packer, School of Health Administration, Dalhousie University; Debbie Sheppard-LeMoine, StFX; Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology; Julia Guk, School of Health Administration Dalhousie University; Daniela Meir, NSHA / Research Methods Unit; Jennifer Murdoch, NSHA; Adele Mansour, School of Occupational Therapy; Brian Condran, Dalhousie University School of Nursing; Mark Embrett, St. Francis Xavier University; Annette Elliott Rose, ; Carla MacDonald, Nova Scotia Health Authority; Cindy MacQuarrie, Nova Scotia Health Authority; Christine Cassidy, IWK Health Centre; Britney Benoit, St. Francis Xavier University; Gail Tomblin Murphy, Nova Scotia Health Authority; Tom Marrie, Nova Scotia Department of Health and Wellness

## *Attrition from Clinical Practice Amongst Early-Career Physicians in Canada*

Dr. Sarah Simkin, University of Ottawa

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Characterizing outflow from the physician workforce is necessary for health workforce modeling and planning. While research into physician retirement has improved our understanding of end-of-career practice patterns, very little is known about attrition of physicians from clinical practice in the earlier stages of their careers. The objectives of this research are: (1) to characterize early-career attrition from the physician workforce on a pan-Canadian scale; and (2) to understand how gender influences early-career attrition.

**Approach:** This longitudinal, population-based study uses health administrative data from the Canadian Institute for Health Information (CIHI) and complementary data sources. All family physicians, medical specialists, and surgical specialists in Canada who were < 55 years of age and in their first 10 years of practice between 2005/6 and 2017/18 are included in the analyses. Changes in participation, activity, and scopes of practice in the early-career period are examined. Rates of attrition amongst early-career physicians are calculated and stratified by gender and an estimate of the service capacity lost from the workforce due to attrition is made.

**Results:** While analyses are still in progress, preliminary results indicate that attrition from clinical practice in the early-career period is more extensive than expected. This is particularly relevant to assessments of the clinical capacity of the physician workforce and helps to address the paradox of an ever-increasing physician workforce (assessed by head counts in CIHI Physician reports) and a concurrent decrease in access of patients to physician care. Further exploration of patterns of reduction of activity and participation and changes in scopes of practice, with a focus on the intersection of gender and early-career practice, is helpful for future workforce projections as the profession feminizes.

**Conclusion:** This research fills a knowledge gap with regards to practice patterns and attrition of early-career physicians. Improved understanding of these issues will enhance our ability to model and predict outflow from the physician workforce and will facilitate workforce planning.

**Author Names:** Sarah Simkin, University of Ottawa; Ivy Bourgeault, University of Ottawa



**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Health workforce planning capability at regional (sub-national or sub-provincial) levels of geography is increasingly necessary to ensure that the healthcare needs of defined local populations can be met by the health workforce. In the City of Toronto, rapidly changing demographics and disparities in access to integrated primary care across the city provided the impetus for the development of a primary care health workforce planning process and allocation strategy.

**Approach:** To support this strategy, we developed a fit-for-purpose needs-based approach to estimate primary care service requirements at a neighbourhood level. Our approach includes population characteristics, need for primary care services, spatial patterns of healthcare utilization, and unmet need. It addresses regional planning challenges that include an aging population, patient mobility across the region, and population growth through vertical development. The model uses quantitative data from the Canadian Institute for Health Information (Population Grouping Methodology), the Institute for Clinical Evaluative Sciences, the Ontario Ministry of Health, and the City of Toronto, along with qualitative data from stakeholder consultations.

**Results:** This planning exercise generates annual service requirement estimates for each of the City of Toronto's 140 neighbourhoods from 2016 to 2023. To identify neighbourhoods in need of additional resources, alignment of primary care service requirements can be compared with estimates of workforce service capacity. These estimates are informed by interprofessional primary care workforce profiles, including activity and participation rates, scopes of practice, and productivity. Scenarios related to population characteristics, mobility, and growth, as well as alternate allocation of services to providers, can be tested to understand the impact of changing conditions on service requirements. This is a pragmatic approach that leverages the strengths of needs- and utilization-based planning to produce estimates that are informed by the realities of the local system.

**Conclusion:** This is a fit-for-purpose and innovative approach to estimating the requirements for primary care services in the City of Toronto that addresses specific regional planning challenges and provides an essential evidence base to facilitate more equitable distribution of healthcare resources, insofar as can be enabled by data availability and quality.

**Author Names:** Sarah Simkin, University of Ottawa; Caroline Chamberland-Rowe, Telfer School of Management - University of Ottawa; Ivy Bourgeault, University of Ottawa

## *In Utero Antidepressants and Neurodevelopmental Outcomes in Kindergarteners*

Dr. Deepa Singal, British Columbia Academic Health Sciences Network

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**Category:** Oral Presentation

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Children exposed in utero to antidepressants have higher rates of adverse outcomes in infancy. However, there are limited studies that investigate the long-term neurodevelopmental effects of in utero exposure to these medications on early childhood development. We use novel and comprehensive population data to determine if in utero selective serotonin reuptake inhibitors (SSRI)/selective serotonin norepinephrine inhibitors (SNRI) exposure is associated with developmental vulnerability in kindergarten among children whose mothers were diagnosed with prenatal mood/anxiety disorder.

**Approach:** Administrative data were used to create a population-based cohort of 266,479 mother-child dyads of children born in Manitoba, between 1996 to 2014, with follow-up through 2015. The sample was restricted to mothers who had a mood/anxiety disorder diagnosis between 90 days prior to conception until delivery ( $n = 13,818$ ). Exposed women had 2+ SSRI/SNRI dispensations during pregnancy ( $n = 2,055$ ); unexposed mothers did not have a dispensation of an SSRIs/SNRIs during pregnancy ( $n = 10,017$ ). The Early Development Instrument (EDI) was used to assess developmental health in kindergarten children. High Dimensional Propensity Scores were used to control for confounding.

**Results:** Of the 3,048 children included in the study who met inclusion criteria and had an EDI, 21.43% of children in the exposed group were assessed as vulnerable on 2 or more domains versus 16.16% of children in the unexposed group (adjusted odds ratio [aOR] = 1.43, 95% Confidence Interval [CI] 1.08, 1.90). Children in the exposed group also had a significant risk of being vulnerable in language/cognition (aOR = 1.40, 95% CI 1.03, 1.90).

**Conclusion:** Children of mothers diagnosed with a mood/anxiety disorder who used SSRIs/SNRIs during pregnancy were at risk for developmental vulnerability, and for language and cognitive difficulties. Early interventions should be provided to children exposed to maternal depression during pregnancy in kindergarten to help ameliorate later educational challenges.

**Author Names:** Deepa Singal, British Columbia Academic Health Sciences Network; Dan Chateau, Manitoba Centre for Health Policy, University of Manitoba; Shannon Struck, University of Manitoba; Janelle Boram Lee, University of Manitoba; Matt Dhal, Manitoba Centre for Health Policy; Shelley Derksen, Manitoba Centre for Health Policy, University of Manitoba; Laurence Katz, University of Manitoba; Chelsea Ruth, Manitoba Centre for Health Policy; Ana Hanlon-Dearman, University of Manitoba and FASD Centre/MB FASD Network ; Marni Brownell, Manitoba Centre for Health Policy

## *Characterizing Patients with High Use of the Primary and Tertiary Care Systems*

Dr. Alexander Singer, University of Manitoba

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** A small percentage of patients utilize the majority of health care resources. Access to high quality primary care is associated with less use of hospital and emergency department (ED) services. Our aim was to identify and compare characteristics associated with high use in primary care, hospital, and ED to inform future mitigation strategies and improve patient outcomes.

**Approach:** This retrospective cohort study used data from the Manitoba Primary Care Research Network and the Manitoba Centre for Health Policy Research Data Repository. We assessed medical records of 193,760 patients with at least one visit to a primary care provider between 2011 and 2016. Definitions of high use were: (1)  $\geq 10$  visits annually to a primary care provider, and the top 10% of health system use based on (2) hospital discharges, (3) length of stay (LOS) and (4) ED visits. Descriptive statistics and logistic regression were used to assess demographic, social, and medical complexities associated with high use.

**Results:** Between 2011 and 2016, 30.8% of patients in our study had high use in at least one year. Patients with high use were significantly more likely to be medically and socially complex. Medical complexity was associated with increased hospital discharges and primary care high use, whereas social complexity was associated with a longer LOS and ED visits. Patients with high use of the ED had a variety of social complexities, such as income assistance, high residential mobility and involvement with the justice system. Patients with high use related to LOS had low-income or a major mental health diagnosis. The majority of patients with high use of the ED (51%) did not have high use of primary care services.

**Conclusion:** The unique characteristics within various high use cohorts can inform strategies aimed at improving health system efficiency by understanding patterns of high use.

**Author Names:** Alexander Singer, University of Manitoba; Alan Katz, University of Manitoba; Leanne Kosowan, University of Manitoba; Paul Ronksley, University of Calgary; Kerry McBrien, ; Gayle Halas, University of Manitoba; Tyler Williamson, University of Calgary

## *"Shielding family at all costs": South Asian men's processes of managing hypertension*

Dr. Shaminder Singh, Community Health Sciences, University of Calgary Cumming School of Medicine

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Hypertension is among the most important risk factors for heart disease and stroke, which are the two leading causes of death worldwide. South Asians are nearly three times more susceptible to hypertension than European Whites. Older age and male gender are known risk factors of hypertension and its management. The objective of this study was to explore the processes of older South Asian men's management of their hypertension in a Canadian context.

**Approach:** Fifteen community-dwelling 55 and older South Asian men with hypertension were recruited and interviewed. The constructivist grounded theory approach was used to collect and analyze the data, iteratively and concurrently. Data were coded by reading interviews line-by-line, segregating words and statements of interest, and labelling them based on their unique meaning. With emerging data, similar codes started to merge into distinct categories, which began to connect and thereby raising the data to an increasingly higher level of abstraction, until data saturation occurred. The connected categories revealed a theoretical model of how participants managed their hypertension in a Canadian context.

**Results:** This grounded theory provides insights into South Asian culture, revealing new health knowledge to assess, plan, and deliver hypertension care services for older South Asian men with hypertension. The findings explicated four-stage processes of 'savvy the self' to hypertension management: 1) Self-care, 2) Self-protection, 3) Making sense, and 4) Equipping Self. The processes of 'savvy the self' made explicit the unique ways that participants' developmental roles interacted with their self-care, causing disequilibrium. The disequilibrium eventually evoked awakening among South Asian men with hypertension by challenging and shifting their beliefs and perceptions. The awakening mobilized the processes of savvy the self by removing the halts and leading to hypertension management.

**Conclusion:** A policy implication of the study might be developing precision hypertension management services based on the unique ways different cultural communities respond to a variety of interventional strategies. The study findings may be useful for community health services, future research directed to enhance professionals' cultural competency, and informing research policy.

**Author Names:** Shaminder Singh, Community Health Sciences, University of Calgary Cumming School of Medicine ; Sandra P. Hirst, University of Calgary, Faculty of Nursing; Shelley Raffin Bouchal, University of Calgary, Faculty of Nursing; Charles Mather, University of Calgary, Anthropology and Archaeology

## *Puzzling the Pieces: An emerging and integrated picture of the family medicine workforce and medical care*

Mr. Steve Slade, College of Family Physicians of Canada

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**Category:** Oral Presentation

**Primary Theme:** Health Human Resources

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** As primary care providers, family physicians deliver most of the medical care Canadians receive, while continuously advising patients who navigate a wide range of health care information and services. Recognizing the federal health minister's new mandate to "ensure every Canadian has access to a family doctor or primary care team", there is a need to study family physician supply and provision of medical services, with particular attention to under-served communities.

**Approach:** A variety of publicly-accessible data sources were mined to produce an integrated picture of the family medicine workforce and medical care services in Canada. This study uses up-to-date family physician training data from the Canadian Post-M.D. Education Registry (CAPER), family physician workforce and medical service data from the Canadian Institute for Health Information (CIHI) and population health status information from the Canadian Community Health Survey (CCHS). PowerBI© was used to produce provincial and sub-provincial data dashboards that profile the family physician workforce, scope of medical services provided by family physicians, population access to medical care and population health status.

**Results:** In 2018, family physicians comprised 50.6% of Canada's total medical workforce and 45.6% of all incoming medical trainees. However, there are significant cross-jurisdiction and regional variations. For example, in 2018, 41.3% of Dalhousie University's entry level medical trainees were family physicians compared to 52.5% at Université de Sherbrooke. At a regional level, there were 251 family physicians per 100K population in the Nord-du-Québec Region in 2018, compared to 102 per 100K population in Nova Scotia's Northern Zone. In 2017-18, Canadians received 275.6 million fee-for-service medical services, of which 149.5 million (54.2%) were provided by family physicians. Family physicians provided proportionately more (61.6%) of all medical assessments and consultations services, but they also provided 26.9% of all obstetrical services and 50.3% of all minor surgeries.

**Conclusion:** Variations in family physician supply and medical service are more readily identified when data sources are integrated into data dashboards, like the PowerBI© visualizations developed for this study. Large provincial and regional variations underscore the need to "ensure that every Canadian has access to a family doctor or primary care".

**Author Names:** Steve Slade, College of Family Physicians of Canada

*Inequities in breast and lung cancer survival by income in Canada: Using linked cancer data to identify practical solutions*  
Ms. April Smith, Canadian Partnership Against Cancer

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Cancer

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Cancer survival rates in Canada rank among the best in the world, and thanks to notable advancements in early detection and treatment efforts, rates have steadily improved in recent decades. However, there is growing evidence that some patients are being left behind. Using linked cancer data, we investigated whether cancer survival rates differ by income level in Canada, and whether these differences can be tied to inequities in timing of diagnosis and access to treatment.

**Approach:** Through record-level linkage of the Canadian Cancer Registry to tax (T1 Family File), hospital (Discharge Abstract Database) and death (Canadian Vital Statistics Death Database) datasets, we investigated the association between income and various cancer outcomes, including stage at diagnosis, receipt of surgery and 3-year survival rates for lung and breast cancer patients. We obtained breast cancer screening data by income from the 2017 Canadian Community Health Survey.

**Results:** Results show a 6-percentage point and 9 percentage point difference in 3-year survival for breast and lung cancer patients, respectively, in the lowest (Q1) and highest (Q5) income quintiles. The effect of income was more prominent for early stage lung cancer patients (11 and 16 percentage point differences found between Q1 and Q5 patients diagnosed at Stage I and II, respectively), whereas for breast cancer, the effect was more prominent in late stage patients (close to 10 percentage point differences between Q1 and Q5 patients diagnosed at Stage III and IV). Earning less was associated with being less likely to be screened for breast cancer, more likely to be diagnosed with advanced stage cancer, and less likely to receive surgery following diagnosis.

**Conclusion:** Identifying factors contributing to disparities informs targeted cancer control strategies for at-risk populations. The current evidence supports the need for targeted programs and strategies to increase screening participation and early detection among lower income populations, and calls for further investigation into the role of treatment patterns on income-based survival gaps.

**Author Names:** April Smith, Canadian Partnership Against Cancer; Jihee Han, Canadian Partnership Against Cancer; Jin Niu, Canadian Partnership Against Cancer; Sharon Fung, Canadian Partnership Against Cancer; Kristen DeCaria, Canadian Partnership Against Cancer; Rami Rahal, Canadian Partnership Against Cancer; Craig Earle, CPAC

## *Similar intentions, disparate affects: Modelling ethical criteria of health equity to inform diabetes interventions using the Diabetes Population Risk Tool*

Dr. Brendan Smith, Public Health Ontario

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Social inequities in diabetes remain in Canada, with uncertainty regarding which interventions will optimally reduce inequities. Little empirical evidence exists regarding how ethical criteria of health equity (e.g., 'sufficiency', 'equality') can inform the choice and design of public health interventions. The study objective was to model the effectiveness of public health interventions to reduce social inequities in diabetes according to distinct ethical criteria of health equity.

**Approach:** Using the validated Diabetes Population Risk Tool (DPoRT), ten-year diabetes risk was calculated for respondents of the nationally representative 2015-16 Canadian Community Health Survey (n=67,867, aged >28 years). Diabetes cases prevented or delayed was estimated across low (high school or less), medium (high school graduation) and high (post-secondary degree or higher) education categories according to two ethical criteria: 1) Equality (equalizing risk); 2) Sufficiency (reducing risk below the DPoRT high-risk threshold ( $\geq 16.5$ ), beyond which remaining inequalities are not ethically important). Hypothetical percent weight-loss interventions in overweight and obese individuals were modelled for each criterion, increasing until inequities were eliminated.

**Results:** In total, 1,811,017 new diabetes cases were predicted for 2026. Education was inversely associated with baseline diabetes risk (risk ratio (RR) = 1.68, 95% confidence interval (CI): 1.63, 1.73; low compared to high education categories). The ethical criterion defined as 'equality' was achieved by implementing 20% and 15% weight-loss interventions in low and medium education groups, respectively. The ethical criterion defined as 'sufficiency' was achieved by a 14% weight-loss intervention in high-risk individuals, however large social inequalities in diabetes remained in this scenario (RR= 1.52, 95%CI: 1.48, 1.56; low compared to high education categories). These counter-factual interventions resulted in 246,923 and 267,690 diabetes cases prevented or delayed, respectively.

**Conclusion:** This study quantifies how the choice of two ethical criteria, which both aim to reduce diabetes inequities, can have disparate effects on social inequities in diabetes. It is the first study to illustrate how adopting different criteria of equity could inform the choice, design, and assessment of public health interventions.

**Author Names:** Brendan Smith, Public Health Ontario; Laura Rosella, Dalla Lana School of Public Health, University of Toronto; Maxwell Smith, Western University; Carlos Quinonez, University of Toronto; Christine Warren, Public Health Ontario; Marian Kelly, University of Toronto; Arjumand Siddiqi, Dalla Lana School of Public Health, University of Toronto; Nicholas King, McGill University; Sam Harper, Department of Epidemiology, Biostatistics and Occupational Health, McGill University; Adrian Viens, York University

# *Primary care approaches to measuring and mobilizing action on social determinants of non-communicable disease: a systematic review*

Mr. Robert Smith, University of Oxford

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Having reaffirmed the centrality of Primary Health Care to achieving universal health coverage, WHO member states now must operationalize their commitments. Leveraging primary care systems to assess and address the social determinants of health (SDOH) is a sensible starting point, however best practices remain unclear. We examined how primary care organizations measure and subsequently act upon the social determinants of non-communicable diseases (NCDs) and sought to compare actions stemming from routine versus ad-hoc SDOH assessments.

**Approach:** PubMed, MEDLINE, Embase and HMIC were searched from inception to 28th June 2019, along with hand-searching of references. Studies of any design that examined a primary care organization assessing social determinants of NCDs with the intention of subsequently intervening upon them were included. We excluded papers with the following characteristics: solely described theoretical models or organizational plans; described single-issue initiatives for narrow sub-populations and; stand-alone epidemiological surveys unless conducted with intention of assessing local SDOH. Independent dual review was used for screening, data extraction, and quality assessment. For quality assessment, modified Cochrane risk of bias and Newcastle-Ottawa tools were used.

**Results:** Searches identified 666 studies of which 17 studies from Canada, South Africa, UK, and USA were included. All used descriptive study designs. Individual-level surveys and interviews were the most common SDOH data collection methods reported. Fewer studies collated secondary population-level data held by agencies external to the primary care organization. Numerous actions were described, ranging from individual-level interventions such as social service referrals to novel representation of primary care organizations on system-level policy and planning committees. No inferences could be made about whether routine SDOH assessments were more or less likely to result in actions addressing SDOH than ad-hoc assessments. Several enablers and barriers to collecting and mobilizing SDOH data within well- and under-resourced primary care settings were identified.

**Conclusion:** Our review identified several primary care approaches to leveraging patient- and population-level data to identify and initiate action on social determinants of NCDs. Stronger evaluative and experimental studies are needed to understand if primary care based SDOH data collection leads to actions that mitigate unmet health and social needs.

**Author Names:** Robert Smith, University of Oxford; Luke Allen, Nuffield Department of Primary Care Health Sciences, University of Oxford; Fiona Simmons-Jones, Essex County Council; Rory Honney, Primary Care and Population Sciences Unit, University of Southampton; Jonny Currie, Public Health Wales



## *Impact of interdisciplinary primary care teams on emergency department and hospital use in persons with dementia: A population-based study in Ontario*

Ms. Nadia Sourial, Department of Family Medicine, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Interdisciplinary primary care (IPC) has been proposed as an ideal approach to manage the growing and complex dementia population, but evidence of its effect is lacking. This study estimated the effect of IPC on emergency department (ED) and hospital use in persons newly diagnosed with dementia in Ontario.

**Approach:** Population-based, repeated cohort using linked administrative data held at ICES; 95,323 community-dwelling persons 65 years old and older, newly diagnosed with dementia between 2005 and 2015 living in Ontario, Canada were followed for up to one year. The intervention group consisted of persons newly-diagnosed with dementia followed in a Family Health Teams (FHT). Those followed in a Family Health Organisation (FHO), a primary care model similar to FHTs but without interdisciplinary care, comprised the comparison group. Inverse-probability weighting was used to estimate the effect on IPC on overall and non-urgent ED visits, overall and avoidable hospitalizations and 30-day readmission.

**Results:** Individuals in the study were approximately equally distributed among the IPC and non-IPC group; Persons with dementia in the IPC group had a higher risk of having an ED visit (relative risk (RR)= 1.03; 95% CI=[1.01,1.05]) or non-urgent ED visit (RR=1.22; 95% CI=[1.18, 1.28]) in the year following diagnosis. Differences in hospitalization outcomes were inconclusive.

**Conclusion:** Among persons with dementia, access to IPC did not translate into a reduction in ED or hospital use and was found to increase non-urgent ED visits compared to non-IPC. Further research is needed to explore the organizational features of IPC required to positively affect service use in this population.

**Author Names:** Nadia Sourial, Department of Family Medicine, McGill University; Tibor Schuster, McGill University; Susan Bronskill, ICES; Claire Godard-Sebillotte, McGill University; Jacob Etches, ICES; Isabelle Vedel, McGill University

## *Family physicians' perceptions on using a centralized referral system to increase patient access to specialized services in Québec, Canada*

Dr. Jessica Spagnolo, Université de Sherbrooke

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Delays in accessing specialized health services in Canada are listed among the worst in OECD countries. Innovations have been implemented worldwide to increase access to such services, but none comparing to Québec's government-led Centres de répartition des demandes de services (CRDS) program. It is a single regional access point for processing and prioritizing requests to specialized health services and aims to support family physicians (FPs) in better ensuring adequate continuity of care.

**Approach:** This presentation aims to explore challenges, from FPs' perspectives, in using the CRDS program. Four Québec regions were purposefully selected based on geographic and population characteristics. CRDS's implementation in these regions was deemed feasible given enough, though variable, resources and tools. Semi-structured interviews with 16 FPs (4 per study region) are being conducted to explore FP practice components, CRDS' modalities and characteristics, and contextual factors influencing the use of CRDS. Interviews are being analyzed in NVivo12 using a deductive-inductive thematic approach based on Chaudoir and colleagues' implementation factors and a logic model developed by the Québec Ministry of Health.

**Results:** Preliminary results show that some FPs view the CRDS as beneficial to clinical practice: a standardized and online CRDS form helps to harmonize reasons for consultation and supports efficiency in referring. FPs also shared how the CRDS challenges clinical practice: 1) standardized forms and referrals by a centralized system can impede clinical judgement and direct collaboration with specialists; 2) FPs received little information and training on the CRDS program, putting into question its relevance (ex.: where to refer patients with mental illness remains unclear); 3) some pre-requisites to referral may be perceived as unnecessary but are mandatory and increase referral process time. Perceptions of these factors varied per region and might allude to contextual factors' influence, such as strong, local leadership and availability of services.

**Conclusion:** CRDS was implemented to improve access to specialized health services in a FP-gatekeeper system through centralized access points. Evaluating this innovative model will foster new knowledge, also pertinent to other Canadian provinces, on FPs' uptake of a tool to manage demand and supply, and direct scheduling with specialists.

**Author Names:** Jessica Spagnolo, Université de Sherbrooke; Martin Sasseville, Centre de recherche - Hôpital Charles-Le Moyne; Mylaine Breton, Université de Sherbrooke; Jean-François Clément, Centre intégré de santé et de services sociaux (CISSS) de la Montérégie-Est; Carine Sauvé, Centre intégré de santé et de services sociaux de la Montérégie-Est; Richard Fleet, Université Laval; Camille Lebel, Université de Montréal; Marie Beauséjour,

*Insight into Healthcare Services: A Characterization of Emergency Room Visits and Economic Hazards in the United States*  
Dr. Aaron Spaulding, Mayo Clinic

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** This research explores the impact of economic hazard areas on hospital-based emergency departments in the United States to determine if economically hazardous environments characterized by the change of population, income per capita, and unemployment rate, experience a higher number of emergency room visits than areas of lower rated economic hazard risk in the United States.

**Approach:** We utilized a retrospective cross-sectional design of nationally constructed dataset of hospital-based emergency departments. We utilized the 2014 Area Health Resource File, 2012 American Hospital Association Database (AHA), 2012 Hospital Compare Database through the Centers for Medicare and Medicaid (CMS), 2012 Hospital Value-Based Purchasing (HVBP) and the 2012 CMS Impact File. We identified our quality outcome measure as emergency room visits rate within a hospital service area. We used a Poisson regression analysis to examine the predicted probability of emergency room visits per hospitals service area population by selected hospital characteristics.

**Results:** Results indicate that there is a difference in the incident rate ratio of emergency room visits between environments considered to be experiencing greater amounts of hazard compare to lower amounts of hazard. Specifically, areas which are classified as High Hazard have 1.44 times the risk of experiencing a greater number of Emergency Room Visits than areas which are classified as Low Hazard. Similarly, organizations which have a higher disproportionate share patient percentage have 2.61 times the risk of experiencing a greater number of Emergency Room Visits. Finally, hospitals located in less competitive markets as identified by the HHI have 3.47 times the risk of experiencing a greater number of Emergency Room visits than more competitive markets.

**Conclusion:** Hospital administrators and health policymakers need to work in conjunction to focus efforts on public safety as a key objective in the delivery of emergency medical care. Further research should extend the current work by overlaying like data with geographic information systems software to visualize emergency department usage patterns.

**Author Names:** Aaron Spaulding, Mayo Clinic; Hana Hamadi, University of North Florida; Emma Apatu, McMaster University

## *How often do patients retain their family physicians following long-term care entry? A population-based retrospective cohort study.*

Mr. Emiliyan Staykov, Ottawa Hospital Research Institute (OHRI)

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Relational continuity of care has been shown to improve patient-provider satisfaction, reduce hospital utilization, and lower healthcare costs. These findings are especially relevant to populations with complex medical histories and needs, such as long-term care (LTC) residents. However, no studies have investigated what proportion of residents retain their family physician following admission into LTC. In this study, we determined the level and predictors of family physician retention among older adults admitted into LTC facilities.

**Approach:** Using linked health databases held at ICES, we conducted a population-based retrospective cohort study of Ontarians aged 60 years or older who were newly admitted to an LTC facility between April 2014 and March 2017. The index date for assessment of family physician retention was the date of entry into LTC. Each resident was matched to their rostered family physician using a two-year lookback window beginning from one year before LTC entry. Family physician retention was defined as having at least one visit by their matched physician within both 0-90 days and 90-180 days of LTC admission.

**Results:** Out of 50,089 LTC residents, 12.1% retained their family physicians post-LTC entry. Resident factors associated with reduced odds of retention included physical impairment (ADL score of 6; OR[95%CI]=0.59[0.42,0.83]), cognitive impairment (CPS score of 4 = 0.39[0.33-0.47]) and a dementia diagnosis (0.80[0.74-0.86]). Physician factors associated with lower retention included a greater distance from the LTC home to the family physician's clinic (30+ kilometers=0.41[0.35-0.48]), having a physician who is female (0.90[0.83-0.98]), an international medical graduate (0.89[0.81-0.97]) or someone who practices in a capitation-based Family Health Organization (0.86 [0.78-0.95]). Factors associated with greater odds of retention were residing in a rural LTC facility (2.23[1.78-2.79]), having a rural family physician (1.70[1.52-1.90]), or a family physician who has billed LTC fee codes in the past year (2.64[2.45-2.85]).

**Conclusion:** Few LTC residents retained their family physician post-LTC admission, underscoring this healthcare transition as a breakdown point in relational continuity of care. Factors that influenced retention included resident health, LTC facility geography, and family physician demographics and practice patterns.

**Author Names:** Emiliyan Staykov, Ottawa Hospital Research Institute (OHRI); Peter Tanuseputro, Bruyère Research Institute & Ottawa Hospital Research Institute; Danial Qureshi, Ottawa Hospital Research Institute; Mary Scott, Ottawa Hospital Research Institute; Clare Liddy, Bruyère Research Institute; Robert Talarico, ICES uOttawa; Michael Ip, Ottawa Hospital Research Institute; Michelle Howard, McMaster University; Andrew Costa, McMaster University; Amy Hsu, Bruyère Research Institute; Celeste Fung, St. Patrick's Home

## *How Can Artificial Intelligence Improve Patient Safety? A Qualitative Interview Study with Subject Matter Experts*

Dr. Ania Syrowatka, Brigham & Women's Hospital / Harvard Medical School

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Adverse events related to unsafe medical care represent one of the top 10 causes of death and disability worldwide, and about half are preventable. Investments to reduce the frequency of harm or to mitigate the impacts could substantially reduce healthcare costs, and most importantly improve patient outcomes. The purpose of this study was to explore subject matter experts' opinions and insights about the potential role for artificial intelligence (AI) in improving patient safety.

**Approach:** Semi-structured interviews were conducted with subject matter experts who have expertise in AI and/or patient safety in eight harm domains: healthcare-associated infections, adverse drug events, venous thromboembolism, surgical injuries, pressure ulcers, falls, decompensation, or diagnostic errors. The interview guide focused on the potential value and limitations of applying AI in these areas, as well as identifying solutions to outstanding challenges. Experts also rank ordered the eight harm domains based on the potential for AI to reduce the frequency of harm in these areas. Interviews were audio-recorded and transcribed. Two independent reviewers analyzed the data using a thematic approach.

**Results:** Ten subject matter experts were interviewed from December 2019 to January 2020. Adverse drug events, decompensation, and diagnostic errors were identified as top areas where AI can be applied to reduce the frequency of healthcare-associated harm. Experts provided insights into key use cases for involving AI to improve safety in the hospital, outpatient settings, and at home, given the data that are currently accessible as well as data that may become available within the next few years. Barriers to widespread implementation included concerns around the availability, quality, and integration of data; limited investment into 'explainable' AI; organizational resistance to change; loose regulatory approaches; uncertainty around liability; and unintended patient harms. Experts provided guidance around how organizations can prepare to leverage this technology in the future.

**Conclusion:** AI has the potential to significantly improve patient safety. Adverse drug events, decompensation, and diagnostic errors were identified as attractive targets for future research. Barriers centered around mistrust of AI algorithms due to limitations of accessible data or 'black box' approaches, and lack of appropriate infrastructures to support widespread use.

**Author Names:** Ania Syrowatka, Brigham & Women's Hospital / Harvard Medical School; Masha Kuznetsova, Harvard Business School; Kelly Jean Thomas Craig, IBM Watson Health; Gretchen Purcell Jackson, IBM Watson Health; Kyu Rhee, IBM Watson Health; David W Bates, Brigham & Women's Hospital / Harvard Medical School

## *Spending on Hepatitis C Antivirals in the United States and Canada, 2014–2018*

Dr. Mina Tadrous, Women's College Hospital

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**Category:** Oral Presentation

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Hepatitis C virus (HCV) antivirals have been shown to be highly effective, but costly. Little is known, however, about the national spending on this drug class in either Canada or the U.S., two countries with differing drug reimbursement processes and policies and different drug pricing regulations. Thus, the objective of this study was to compare drug expenditure on HCV medications in the U.S. and Canada.

**Approach:** We conducted a retrospective, cross-sectional study of all HCV medications dispensed to outpatients in the U.S. and Canada between 2014 and 2018 using data from IQVIA's National Sales Perspectives (NSP) database (U.S. expenditure data) and Geographic Prescription Monitor (GPM) database (Canadian expenditure data). We used descriptive statistics to report the total expenditure on HCV medications in the U.S. and Canada for each quarter of the study period. In addition, we calculated population adjusted HCV medication costs per 100,000 people (population data from BEA and CANSIM) in order to compare national spending between the two countries.

**Results:** The U.S. and Canada spent \$59.7 billion and \$2.8 billion on HCV medications, respectively. Population-adjusted HCV medication costs (per 100,000 population) were higher in the U.S. (\$1.0 million) compared to Canada (\$0.4 million). In the U.S., the annual medication costs (per 100,000) between the years 2014 to 2017 ranged from \$0.8 million to \$1.4 million. Peak spending of \$1.6 million occurred in the second quarter of 2015. In contrast in Canada medication costs (per 100,000) between the years 2014 to 2017 ranged from \$0.1 million to \$0.5 million. Peak spending of \$0.7 million occurred in the fourth quarter of 2015.

**Conclusion:** Overall, both U.S. and Canada have spent substantial amounts on HCV medication. Given the high expenditure on this class of medications, there is an ongoing need for evaluation of varying reimbursement policies to ensure a return on investment and improved patient outcomes. As policies to reduce drug spending in the

**Author Names:** Mina Tadrous, Women's College Hospital; Ahmad Shakeri, University of Toronto; Narthaanan Srimurugathan, University of Toronto; Katie Suda, University of Pittsburgh; Tara Gomes, St. Michael's Hospital

## *Suicide, Suicide attempts and Self-Harm among Physicians in Ontario, Canada (3S study)*

Dr. Peter Tanuseputro, Bruyère Research Institute & Ottawa Hospital Research Institute

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Studies of occupation associated suicide suggest physicians may be at a higher risk of suicidality relative to non-physicians. However, previous studies have failed to account for comprehensive and relevant risk factors (e.g. specialty type, previous mental health disorders, etc.) and the majority predate the year 2000. The objective of the current study is to examine the population-level risk of suicidality (defined as suicide, suicide attempts and self-harm) in physicians and to compare them to non-physicians.

**Approach:** Population-based, retrospective cohort study of all newly licenced and registered physicians in Ontario, Canada from 1990 to 2016. Physician data was linked to health administrative databases for hospitalizations, emergency room visits, and death. Age and sex standardized rates and Cox proportional hazards models were used to examine the association of physicians and suicidality compared to non-physicians matched via a propensity score.

**Results:** Among, 36,363 physicians, the age, sex-adjusted rates of suicidality were lower in physicians (Age, sex standardized rate 45.03 vs. 77.21 per 100,000 person-years), whereas the ratios of suicide attempts to suicide completion were 1.5:1 in physicians and 2.6:1 in non-physicians. Late 20s and over the age of 45, healthcare utilization in the prior year, and a diagnosis of a mental health disorder were associated with a higher risk of suicidality. In a matched analysis, the risk of suicidality was lower for physicians compared to matched non-physicians (HR 0.53 95%CI 0.45-0.62). When each component was examined separately, there was no difference in completed suicide (HR 1.10 95%CI 0.64-1.88) but lower risks for attempted suicide (HR 0.57 95%CI 0.33-0.97) and self-harm (HR 0.59 95% 0.42-0.81) among physicians.

**Conclusion:** Suicidality in physicians is lower relative to non-physicians; however, it is more likely to lead to death and is associated with factors that may inform prevention programs.

**Author Names:** Peter Tanuseputro, Bruyère Research Institute & Ottawa Hospital Research Institute; Emily Rhodes, Ottawa Hospital Research Institute; Edward Spilg, The Ottawa Hospital; Manish Sood, The Ottawa Hospital

# *A CLUSTER ANALYSIS EXPLORING THE RELATIONSHIP BETWEEN DAILY PATIENT VOLUME, PROVIDER PANEL SIZE, SERVICE DAY PROVISION AND PATIENT HEALTH OUTCOMES IN ALBERTA GENERAL PRACTITIONER PRACTICES*

Ms. Lynn Toon, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Alberta is considering changes to fee-for-service payment rules. Little is known about the relationship between daily patient visit volume, other physician characteristics, and quality of care to guide policy. Objective: To understand the relationships of part-time vs. full-time practice, daily patient visit volume, provider panel size, geographic location, and level of patient continuity with outcomes, measured by ED visits and hospitalizations.

**Approach:** We have an anonymized, province-wide, longitudinal data set from Alberta Health that comprises linked physician claims, hospitalizations, and ambulatory care from 2003-18. We will calculate physicians' panels using the Health Quality Council of Alberta's 4-cut method, and estimate complexity using Clinical Risk Groupers. We will explore: 1) cluster analysis of physician characteristics and visit volume using an unsupervised K-Nearest Neighbors algorithm; 2) logistic regression of the log-odds of an ED visit or hospitalization by the variables under "Objective"; 3) 2-stage general linear modeling of utilization by those same variables.

**Results:** As an analysis in progress, we will consider outcome measures that include physician characteristics and practice pattern clusters; association of the rates of ED visits and hospitalization with visit volume and practice characteristics. All patients with asthma, COPD, heart failure, coronary heart disease, or diabetes who used the health system between 2015 and 2018, and General Practitioners in fee-for-service practice during that time, will be included. Anticipated Results: We expect to see differences in hospital admission rates and ED utilization between part-time and full-time General Practitioners, high and low daily visit volume, panel size, and geography.

**Conclusion:** We anticipate meaningful clusters emerging, such as high-volume low-continuity practice, that will be associated with hospital and ED utilization and will be important in policy development.

**Author Names:** Terrence McDonald, Department of Family Medicine, University of Calgary; Cord Lethebe, University of Calgary; Lee Green, University of Alberta - EnACT



## *The Association of a time modifier billing code and ED Visits and Hospitalizations and Physician Income*

Ms. Lynn Toon, University of Calgary

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Alberta has the highest percentage of fee-for-service General Practitioners (GPs) in Canada at over 80%, and they are among the highest paid in the country. As part of a cost containment strategy, the Alberta government proposes to eliminate a fee code that compensates physicians for extended visit times. We explored the usage patterns of that fee code and its association with hospitalization and emergency department visits, along with physician income.

**Approach:** We have an anonymized, province-wide, longitudinal data set from Alberta Health that comprises linked physician claims, hospitalizations, and ambulatory care from 2003-18. We calculated physicians' panels using the Health Quality Council of Alberta's 4-cut method, and estimated complexity using Clinical Risk Groupers. Data were from the 2017-18 fiscal year, fee-for-service only. We controlled for patient volume, panel size, years in practice, patient age and sex, physician sex, rurality, zone, and patient complexity in a multivariate regression for income and a Poisson regression for outcomes, with testing for zero-inflation and over-dispersion.

**Results:** 20% of family physicians do not use the extended visit code. Those who do, use it for an average of 15% of visits. Non-users of the code bill slightly over \$60,000 a year more than users.

A 1% (absolute) increase in use of CMGP01 codes (i.e., from 14% to 15% of visits) corresponds to \$986 a year in reduced billings for physicians who use the code. Use of CMGP01 is associated with significantly fewer hospital admissions and ED visits. A 1% (absolute) increase in use of CMGP01 is associated with approximately 3800 fewer hospitalizations and 13,960 ED visits per year. Ordinal logistic, negative-binomial and lagged (independent variables in quarter Q, outcome in Q+1) models showed the same results. Over-dispersion was minimal and zero-inflation absent.

**Conclusion:** GPs using the code to extend visits made less money, but the extended visits appeared to improve patient outcomes. Eliminating the code is likely to result in cost increases in hospital and ED of many times the potential savings. Physicians may replace extended visits with multiple visits, at greater cost.

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## *Outcome and Cost of Optimal Control of Dyslipidemia in Adults with High Risk for Cardiovascular Disease*

Dr. Dat Tran, Institute of Health Economics

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**Category:** Oral Presentation

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Dyslipidemia is an important risk factor for atherosclerotic cardiovascular disease. Despite the presence of clinical guidelines and treatment efforts, suboptimal control of dyslipidemia is common. However, little is currently known about the outcomes and costs of optimal control compared to suboptimal control of dyslipidemia in patients with high risk cardiovascular disease (HRCVD). We measured the association between mortality and costs with optimal control of dyslipidemia in adults with HRCVD.

**Approach:** We linked Alberta health databases to identify patients aged  $\geq 18$  years with HRCVD between April 2012 and March 2017. The first HRCVD event was considered the index event. Patients were categorized into (1) optimal control (case patients) and (2) suboptimal control (control patients) of dyslipidemia based on biomarkers and lipid-lowering therapy during the year post index event. Five different definitions of optimal dyslipidemia control were used. We measured the association between optimal dyslipidemia control and mortality and costs using difference-in-difference and propensity score matching methods.

**Results:** The study included 459,739 patients with HRCVD (43,776 [9.5%] case patients). Case patients were older (median age=62 vs. 55 years,  $p<0.001$ ), included fewer females (27.7% vs. 52%,  $p<0.001$ ), and featured a higher proportion of secondary prevention patients (15.7% vs. 1.7%,  $p<0.001$ ). Compared to control patients, case patients had lower mortality (0.7% vs. 1.9%,  $p<0.001$  at 1-year and 2.9% vs. 5.1%,  $p<0.001$  at 3-year post index event) and higher healthcare costs (CA\$3,758,  $p<0.001$  at 1-year and CA\$6,844 at 3-year post index event). Among secondary prevention group, case patients had lower mortality (0.7% vs. 3.1%,  $p<0.001$  at 1-year and 3.1% vs. 8.1%,  $p<0.001$  at 3-year post index event) at no additional costs. The results were robust across 5 definitions of optimal dyslipidemia control.

**Conclusion:** Patients with optimal dyslipidemia control have lower mortality and incur higher costs. However, secondary prevention patients with optimal dyslipidemia control experience lower mortality at no additional costs. A treatment strategy focusing on the most high-risk population could result in health gain without additional financial burden on the health care system.

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## *Quantifying the Effect of Quality Standards for Schizophrenia on Patient Outcomes and Health Service Utilization*

Mr. Luke Turcotte, School of Public Health and Health Systems, University of Waterloo

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** In Ontario, there is a great emphasis on improving outcomes by using evidence-based standards. Ontario Shores Centre for Mental Health Sciences has fully implemented Health Quality Ontario's Schizophrenia Quality Standard (for care in hospital) and has enhanced their electronic medical record system to measure patient-level concordance to the quality standard. This study describes the association between concordance with quality standards for schizophrenia on clinical outcomes and health service utilization after discharge from inpatient psychiatric care.

**Approach:** From November 2016 to January 2020, concordance with elements of the quality standards for the care of persons with a diagnosis of schizophrenia was recorded for 758 patients. These data were linked with RAI-MH assessments completed at admission and discharge to inpatient psychiatry to measure change in the severity of psychiatric symptoms. Record linkage with the Canadian Institute for Health Information's Discharge Abstract Database and National Ambulatory Care Reporting System was used to measure hospital and emergency department utilization after discharge. A series of explanatory models were fit to describe the association between concordance with quality standards and patient outcomes.

**Results:** Health Quality Ontario's quality standards for schizophrenia are based on best available evidence and consensus of opinion from expert advisory committees consisting of clinicians and patient partners. We anticipated that concordance with select elements of the quality standard (e.g., treatment with clozapine, treatment with long-acting injectable antipsychotic medication, cognitive behavioral therapy, and coordinated care after discharge) will be positively associated with a reduction in psychiatric symptom severity and subsequent health service utilization. All data collection is complete. Final results will be available in early Spring 2020.

**Conclusion:** This study describing the effect of concordance with quality standards for schizophrenia will be of interest to policy makers and providers implementing evidence-based best practices to reduce service delivery variation and improve outcomes. The results will inform funding methodologies based on value and opportunity to explore bundled payments across sectors.

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## *Tax Time Insights: Experiences of people living on low incomes in Canada*

Ms. Nirupa Varatharasan, Prosper Canada

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Income is an important social determinant of health. Assistance with tax filing and accessing benefits can help boost incomes, healthcare professionals have begun work on this front. Many people with low incomes experience barriers that prevent access to these important sources of income. Consequently, we undertook this study to: 1. Generate new knowledge on the tax filing experiences of people living on low incomes 2. Identify relevant implications for future programs, policy, and research.

**Approach:** From March to July 2017, 53 people with below Low Income Cut-Off incomes living in eight provinces and one territory participated in this qualitative study. They took part in three to four semi-structured interviews (211 interviews in total). Participants were recruited by local non-profit organizations and were selected to represent a range of tax filing experiences. Study participants had a median age of 40 and were from diverse racial backgrounds. 62% of participants were female, 43% were single, and 62% were born in Canada. Education levels varied and 78% of participants reported an annual income of \$29,000 or less.

**Results:** Participants shared insights on tax filing knowledge, motivations, experiences, and supports accessed. Many participants reported experiencing barriers to tax filing such as: tax filing costs, low literacy, living with a disability, documentation burden, transient housing situations, lack of awareness, inaccessible free tax filing support services, difficulties communicating with the Canada Revenue Agency, and low proficiency in official languages. The most complicated aspects of the tax filing process for participants were tax form navigation, refund calculation, and, document compilation. Participants expressed a lot of stress related to tax filing; however, trusted sources of support such as friends/family and community organizations played a key part in assuaging their distress. Several implications were identified for policy makers, practitioners, and researchers that can help to decrease these barriers.

**Conclusion:** Tax filing is an important first step to accessing income-boosting benefits. However, many participants experience barriers that prevent access to these important sources of income. Healthcare providers in collaboration with cross-sectoral partners can play an important role in addressing these barriers to improve benefit access and health equity.

**Author Names:** Nirupa Varatharasan, Prosper Canada

**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Many hospitalized older adults experience delayed discharges and are often referred to as Alternate Level of Care (ALC). Transitional care programs (TCPs) provide short-term care to these patients to prepare them for transfer to nursing homes or back to the community with supports. This scoping review aims to identify: 1) the characteristics of older patients served by TCPs, 2) the services provided to patients within TCPs, and 3) the outcomes used to evaluate TCPs' effectiveness.

**Approach:** The scoping review follows a framework by Arksey and O'Malley. We searched the following databases until January 2020: Medline, PsychINFO, Emcare and CINAHL, and reviewed websites of health agencies for reports of initiatives that evaluated TCPs. We selected papers and reports that involved community-dwelling older adults aged 65 years or older; presented in English, French, Dutch and German languages; and examined the process and/or outcomes of TCPs. Two independent raters screened, reviewed and abstracted data. Utilizing Donabedian's model, we organized the evidence to describe the structures, processes and outcomes of TCP services.

**Results:** The search retrieved 4828 references. After removing duplicates, we screened 4442 abstracts and assessed 130 studies for full-text eligibility; 50 studies met the selection criteria, in addition to four documents identified in the grey literature search.

The characteristics of patients were: 65 years of age and older; the presence of multimorbidity, medical stability prior to discharge from the hospital. Common services were: provision of continued medical treatment, rehabilitative care, psychosocial and recreational therapy, and discharge planning. Less common services included: comprehensive geriatric assessment, medication reconciliation, nutrition and dental care and advance care planning.

The outcomes most frequently assessed were discharge destination, mortality, hospital readmission, length of stay, cost and functional status. Less frequently measured outcomes included care needs post TCP discharge, satisfaction and quality

**Conclusion:** The growing number of TCPs in Canada presents a unique opportunity to learn from TCP programs that have been developed internationally. Currently, there is a lack of consensus on the required elements for TCP services of the program. The main outcomes of TCPs focus on the health system with limited

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Several studies have provided evidence that suboptimal nurse staffing practices and work environments are associated with poor outcomes. It is only recently that the mediating role of nursing care processes was investigated. Since then, omitted nursing care has been identified and it has been shown to influence the associations between nurse staffing and outcomes. However, this phenomenon remains unknown in the intensive care unit (ICU), which might be accountable to the absence of adapted instruments.

**Approach:** We aim to develop and validate an instrument to measure omitted nursing care in the ICU. To that end, a list of nursing care activities will be generated from existing instruments, and a literature review. Second, an electronic Delphi expert panel will be held to select nursing activities that will be included in the instrument. Third, an electronic provincial survey will be undertaken. This survey will allow to measure the characteristics of omitted nursing care in Quebec (Canada) ICUs, as well as the associations between nurse staffing practices, omitted nursing care and outcomes.

**Results:** To answer our objectives, descriptive statistics will be used to estimate the prevalence and characteristics of omitted nursing care. Moreover, exploratory factor analysis, and Cronbach alphas will be used to estimate the psychometric properties of the newly developed instrument. Last, generalized estimating equation models will be used to assess the associations between nurse staffing, omitted nursing care and outcomes. This research will allow the development and validation of a new instrument which might help assess the extent of nursing care omission in other ICUs. To our knowledge, this will be the first study to investigate the phenomenon in the ICU.

**Conclusion:** Since the first reports on omitted nursing care in acute care settings, it has been shown to influence patient outcomes. This study will help shed light on the extent of the phenomenon in a particularly vulnerable population; critically ill ICU patients.

**Author Names:** Christian Vincelette, School of Nursing, Université de Sherbrooke; Christian Rochefort, University of Sherbrooke

## *The managerial and political strategies to attenuate the omission of nursing care: A theoretical exploration*

Mr. Christian Vincelette, School of Nursing, Université de Sherbrooke

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Omitted nursing care has been described in the past 20 years as a systematic phenomenon affecting patient outcomes. This phenomenon cannot be ascertained without taking into consideration the political context in which care is delivered. Multiple strategies have been put forward to face the negative effects of nursing care omission on nurse (e.g. intention to leave) and patient outcomes (e.g. mortality), yet they remain scattered throughout the literature.

**Approach:** A critical review of studies identified in a recent systematic review of the literature was undertaken (Vincelette, Thivierge-Southidara & Rochefort, 2019). This review included both primary studies and reviews published between 2001 and 2019, pertaining to the determinants and outcomes of omitted nursing care. Manuscripts were included in this sub analysis if they discussed propositions relevant to nursing policies or management.

**Results:** The strategies identified in 34 studies were grouped in three categories and are presented in descending order of mention: 1) unit-level (e.g. modifying nurse/ward culture), 2) hospital-level (e.g. involving nurses in clinical governance), and 3) policy-level (e.g. adopting evidence based staffing policies). Most of these strategies were identified in concluding statements and were introduced as solutions to mitigate the impact of omitted nursing care on both nurse and patient outcomes. However, while a significant proportion mentioned neoliberal policies and implied it had influence on the determinants (e.g. staffing) of omitted nursing care, no study explicitly examined its influence, nor the one it might have on nurses' response patterns, as well as their will to participate to these studies.

**Conclusion:** This sub analysis shed light on avenues to attenuate nursing care omission. However, most of the evidence fails to provide answers on "how" to apply the strategies, particularly at the policy-level. We invite investigators to go beyond the mere proposition of using evidence to guide staffing policies.

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## *A Trajectory Analysis to Inform the Creation of a Learning Health System*

Ms. Regina Visca, McGill University

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**Category:** Oral Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** To address the major shortcomings in chronic pain (CP) management we are implementing and evaluating a digital learning health system (LHS) in a university health centre and four local health networks in Quebec. The first phase of this study is to co-design integrated CP trajectories that incorporate the principals of LHS. The objective is to map the current trajectories of care and identify gaps in these trajectories, guided by best practice and patient-centered care.

**Approach:** As part of a larger longitudinal multiple case study design, we used a participatory research approach to map and analyze CP trajectories from primary to quaternary care. Data collection included document review, meeting observations, and focus groups with patients, providers, policy-makers, decision-makers, and researchers. The Nominal Group Technique was used to guide our assessment and prioritization of the trajectory structures and processes that had the greatest impact on Quadruple Aim dimensions. Root cause analysis using the Fishbone Cause and Effect tool was used to guide a brainstorming session aimed at categorizing and visually identifying the possible causes of the gaps.

**Results:** Providers, decision-makers, patients, policy-makers and researchers prioritized the following 5 gaps: 1) right service is not available at the right time; 2) poor referral mechanisms; 3) clinical information does not follow the patient; 4) services are fragmented; and 5) services do not meet patient needs. Imbalances at the macro, meso and micro level were identified through root cause analysis and include suboptimal resources and funding, lack of infrastructures to support the continuity of relevant clinical information, lack of support from senior management and policy-makers, poor collaboration across levels of care, and an emphasis on the bio-medical model. Stakeholders identified that a digital LHS – including interdisciplinary care, collaborative learning, decision-support tools, real-time access to clinical data, and patient-reported outcomes – is needed.

**Conclusion:** Trajectory analysis reveals gaps that impact patient outcomes, patient experience, provider experience, and costs. The results will inform a LHS that will capture clinical information and follow the patient across the integrated network to evaluate quality of care using indicators that address the gaps and enhance access to quality care.

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## *How Nurse Practitioners Can Improve Access to Primary Care in Northern British Columbia: Findings of a Mixed Methods Study*

Dr. Erin Wilson, University of Northern British Columbia

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**Category:** Oral Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Family nurse practitioners (NPs) have been regulated primary care providers in British Columbia (BC) since 2005. The practices of NPs, especially those in northern or rural regions, remain unarticulated in terms of contributions to primary health care (PHC) delivery as part of interprofessional teams in primary care settings. Objective: To describe NP practices that go beyond direct patient care by integrating PHC attributes such as population orientation, community participation, intersectoral team, health promotion and prevention.

**Approach:** Qualitative-dominant mixed methods. Thirteen NP participants completed the validated 28-item Primary Health Care Engagement Scale (PHCE) to assess NP perception of their work setting with 8 attributes of PHC (quality improvement, community participation, patient-centred care, accessibility, intersectoral team, interdisciplinary collaboration, continuity, and population orientation). NPs were interviewed about their everyday practice, and transcribed data from the interviews were analyzed interpretively.

**Results:** NPs engage in practices that move beyond direct patient care in part by recognizing how inequities shape health. Intentions to address the social determinants of health are articulated through efforts to work collaboratively with an interprofessional team and also across sectors. NPs care for medically and socially complex patients in a way that may help improve patient abilities to seek and engage in care; this patient-centred approach to access is not reflected in current discourse.

**Conclusion:** The findings highlight NP contributions to delivering care that can improve access and operationalize a social model of health. Continued attention to integration of NP roles across Canada can help accelerate uptake of innovative and sustainable approaches to delivering accessible primary health care.

**Author Names:** Erin Wilson, University of Northern British Columbia; Farah McKenzie, BC Cancer; Robert Pammett, Northern Health and University of British Columbia; Helen Bourque, Northern Health

## *Emergency Department Contexts and Equity-Oriented Health Care: Challenges and Opportunities*

Dr. Erin Wilson, University of Northern British Columbia

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Staff in Canadian Emergency Departments (EDs) face competing demands reflecting system-wide issues including primary care accessibility and resource availability to support patients experiencing chronic pain, substance use, and mental health issues. These issues disproportionately impact patients experiencing social inequities. Although processes to alleviate chronic overcrowding have been implemented, less attention has been paid to how workplace pressures influence capacity of staff to engage with policies and practices that can improve staff and patient experiences.

**Approach:** Paper and online surveys were administered to staff within three different EDs in British Columbia. All staff working in the ED were eligible to participate. Data were collected as part of EQUIP ED, a mixed-methods organization-level intervention study aimed at enhancing capacity to provide equity-oriented health care in EDs. Pooled, cross-sectional survey data (n=394) were analyzed to examine work experiences, team effectiveness, and domains of equity-oriented care. Descriptive results from survey data are complemented by illustrative excerpts from qualitative interviews conducted with direct-care staff and administrative leadership.

**Results:** Levels of stress reported by staff, the extent to which they have control over their work, have sufficient time to do their work, receive feedback about their work, and their ratings of the quality of care provided by the ED, highlight current workplace pressures and impact on staff experiences. The proportion of staff who have received training on, and have confidence in being able to provide equity-oriented care in the ED has implications for how staff may be able to contribute to improved care for patients already experiencing the harmful effects of racism and other forms of discrimination, stigma, poverty, substance use, chronic pain or mental health challenges. These findings also provide direction for leaders and staff regarding pathways to supporting staff.

**Conclusion:** Continued emphasis on increasing flow through EDs without attention to how burdens of work impacts staff risks inadvertently perpetuating health and healthcare inequities experienced by patients seeking care in EDs. These realities in turn contribute to worsening working conditions for staff and continued lack of attention to promoting equity.

**Author Names:** Erin Wilson, University of Northern British Columbia; Annette Browne, UBC School of Nursing; Colleen Varcoe, UBC School of Nursing; Vicky Bungay, University of British Columbia; Nadine Wathen, University of Western Ontario

## *Enhancing the Delivery of Comprehensive Care for People Living with HIV in Canada: Insights from Citizens and Stakeholders*

Dr. Michael Wilson, McMaster Health Forum

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**Category:** Oral Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** People living with HIV are living longer with health-related disability associated with aging, including complex conditions. However, health systems in Canada have not adapted to meet these comprehensive care needs. Our goal was to spark action to address this challenge by convening deliberations across Canada with people living with and affected by HIV, and with policymakers, stakeholders and researchers who can champion needed changes.

**Approach:** We convened three citizen panels (one in Manitoba, Ontario and Newfoundland with a total of 31 participants) and a national stakeholder dialogue with 21 participants. The panels were informed by a plain-language citizen brief that outlined data and evidence about the challenge/problem, elements of an approach for addressing it (which outlined the need for strengthened health and social systems that are underpinned by processes that enable rapid-learning and improvement) and implementation considerations, and the national dialogue was informed by a more detailed version of the same brief that included a thematic analysis of the findings from the panels.

**Results:** Panelists proposed several areas where HIV care could be strengthened, including support for prevention, more widely available testing (and options for testing), better access to social supports, increased public education to address stigma, and access to more timely data to support needed system changes. Participants in the stakeholder dialogue also emphasized the need to address the lack of coordination across care pathways to enable person-centred care, and the need for mechanisms and resources to support coordinated learning and improvement learning across provinces, territories and Indigenous communities.

**Conclusion:** Our deliberative processes have determined policy priorities for enhancing person-centred care for people living with HIV, which will inform implementation of an HIV-focused learning collaborative to operationalize rapid learning and improvement processes to strengthen health and social systems.

**Author Names:** Michael Wilson, McMaster Health Forum; Michael Fitzgerald, Bruyere Research Institute; Ron Rosenes, N/A; Claire Kendall, University of Ottawa c/o Bruyère Research Institute

## *Field test results of co-developed client and caregiver experience surveys in home and community care*

Dr. Walter Wodchis, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Home and community care (H&CC) providers are providing more services to increasing numbers of frail older adults living in the community. Informal caregivers are also an integral part of ensuring independent living for home care clients. As such, understanding the experience with H&CC services from both clients and their caregivers, is crucial for performance monitoring and quality improvement in H&CC. Experience measurement tools that capture what is important to both clients and caregivers are lacking.

**Approach:** A multi-organizational partnership was established between Ontario Health (Quality), Health Shared Services Ontario (HSSO), and the Health System Performance Research Network (HSPRN) to develop distinct client and caregiver experience surveys for home and community care. Surveys were developed with extensive consultation with clients and caregivers. A field test of the resultant survey was conducted in French and English via three modes: telephone, online, and mail-back paper surveys. Potential respondents from a sample pool of 1800 home care clients were randomly assigned to one of the three modes. Surveys were undertaken over a six-week period from August to October 2019.

**Results:** The overall response rates to the surveys was relatively low but provided sufficient sample for aggregate testing of both the client and the caregiver surveys with more than 200 client and more than 100 caregiver respondents. The characteristics of respondents were very akin to those of the field test sample and the full provincial population of all home care clients. Overall, the completion rates of questions in both client and caregiver surveys and across modes were high and there was a substantive distribution of responses across all response categories for most items. The 'top box' response was generally indicated by about 25-40% of the respondent population. Telephone responses were substantively more positive compared to mail-out paper-based and online surveys suggesting an interpersonal positive response bias.

**Conclusion:** The survey questions were well received by respondents and a range of responses indicates it comprehensively captured the variability in the experience of clients and caregivers. We recommend the adoption of the surveys to measure the experience of home care clients and caregivers in Ontario.

**Author Names:** Walter Wodchis, University of Toronto; Kevin Walker, University of Toronto; Gail Donner, university of toronto; Gail Dobell, Health Quality Ontario; Carolyn Barg, Health Quality Ontario; Nusrat Nessa, University of Toronto; Bernadee Koh-Bilodeau,

## *Assessing the validity of health administrative data compared to population health survey data for the ascertainment of low back pain*

Dr. Jessica Wong, Dalla Lana School of Public Health, University of Toronto

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**Category:** Oral Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Low back pain (LBP) is a high burden condition that lacks routine surveillance data. Health administrative data may be used for surveillance, but its validity for ascertaining LBP has not been established. The objectives were to: 1) assess the validity of health administrative data compared to self-reported data for ascertaining LBP in a population-based cohort of adults in Ontario; and 2) describe the characteristics of LBP cases based on the data source.

**Approach:** Adult respondents ( $\geq 18$  years) of 5 cycles of the Canadian Community Health Survey (CCHS) from 2003-2012 were included (N=150,695). CCHS data were individually linked to health administrative data, including Ontario Health Insurance Plan and hospitalization data. As the reference standard, LBP ascertainment from CCHS was based on self-report of a back problem diagnosed by a health professional. LBP ascertainment from billing records was identified as  $\geq 1$  physician billing or procedural code for LBP within 2 years before CCHS interview date. Prevalence (weighted with CCHS sampling weights), Kappa coefficient, percent agreement, sensitivity, specificity, positive and negative predictive values were calculated.

**Results:** The prevalence of LBP was 13.1% in health administrative data and 21.2% using self-reported data. Agreement using the Kappa coefficient was 0.23 (95% confidence interval 0.22-0.24). Sensitivity of using health administrative data to ascertain LBP was 0.30, specificity was 0.90, positive predictive value was 0.49, and negative predictive value was 0.80. Positive and negative agreement were 0.37 and 0.85, respectively. When assessing cases identified by health administrative data that did not self-report LBP, a higher proportion was female or in the lowest income quintile, and a lower proportion consulted a chiropractor.

**Conclusion:** Health administrative data may underestimate LBP prevalence in adults and lead to misclassification bias that is likely non-differential. There was a higher probability that adults defined as having no LBP based on health administrative data truly did not have LBP.

**Author Names:** Jessica Wong, Dalla Lana School of Public Health, University of Toronto; Pierre Côté, Faculty of Health Sciences, Ontario Tech University; Andrea Tricco, Li Ka Shing Knowledge Institute of St. Michael's Hospital, Unity Health Toronto; Laura Rosella, Dalla Lana School of Public Health, University of Toronto

## *Effects of Senior Centre Services on Health Care Costs in Alberta*

Dr. Charles Yan, The Institute of Health Economics (IHE)

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**Category:** Oral Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Senior centres play a key role in health and well-being of the elderly. Alberta has been developing community-based organizational arrangements to contribute to overall quality of life of elderly residents. To our knowledge, limited information is available on how the presence and level of senior centre services affect the healthcare resource use of residents in Alberta. The econometrics analysis uses real-world data to explore the effects of senior centre services on health care costs.

**Approach:** To account for geographic dispersion in population, we categorised Alberta into 61 clusters and assumed senior centres within a cluster would serve residents in the cluster. The senior centre services, measured using membership-fee, service hours, and items provided, were aggregated in each cluster. A multilevel regression was then conducted, with level 1 being individual patients, level 2 being the clusters, and control variables being gender and age, to assess effects of services on costs of physician, outpatient and inpatient visits. OLS regression was also conducted for comparison. The data were from Alberta health databases and the centres directory.

**Results:** In 2018, mean values of patients, age, female percentage, rural-patient percentage and costs (sd) were 201,884, 76 years, 56%, 18%, and \$2,801 (3,529), respectively, for physician; 151,319, 76 years, 55%, 20%, and \$3,182 (7,114) for outpatient; and 51,419, 79 years, 52%, 20%, and \$32,075 (65,020) for inpatient. Mean membership fee (sd) was \$15 (5.97) and the service hours and items were at the category level of 4 and 4.5, respectively. The multilevel regression suggested that a male, older and living in urban setting was more likely to incur higher costs. Higher membership fee and longer service hours were more likely to reduce (i.e., negative effects) the costs. ANOVA test indicated the multilevel regression provided a significantly better fit to the data than the OLS regression.

**Conclusion:** The analysis added evidence to the perception that community-based senior centres have effects on health care uses. Given that not all of patients were senior center users and some users may not have consumed health care, more research is required to explore the effects of services on senior centre users.

**Author Names:** Charles Yan, The Institute of Health Economics (IHE); Jeff Round, The Institute of Health Economics; Kate Harback, The Institute of Health Economics

# *Artificial Intelligence for Medical Imaging Analytics: Insights from a Knowledge Exchange Workshop Focusing on Lung Cancer Diagnostics and Policy Questions*

Ms. Amy Zarzeczny, University of Regina

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**Category:** Oral Presentation

**Primary Theme:** Health Informatics

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** Artificial intelligence (AI) is a fast-moving field with wide-ranging implications. One promising application is the use of AI-based imaging analytics for medical diagnostic purposes, such as for lung cancer. However, in addition to its considerable technical complexities, the use of this technology in both research and clinical spheres raises various legal and policy issues including those related to privacy, consent, liability and equity of access, among others.

**Approach:** We convened a knowledge exchange workshop to explore ethical, legal, clinical, and organizational issues surrounding the use of AI in diagnostic imaging, with a view to identifying opportunities, challenges, priorities and policy options for clinical implementation in the Saskatchewan health system. Participants at the workshop included clinicians (with expertise in radiology, general surgery, thoracic surgery and diagnostic imaging), physician researchers, ethicists, law and policy scholars, health system administrators, informatics experts and patient partners. We used a modified nominal group technique as a strategy for group brainstorming and problem-solving, drawing on discussion questions developed following a broad literature review.

**Results:** Participants offered a broad range of insights and perspectives relating to development and adoption issues, patient input, matters of consent, liability concerns and regulatory issues. Notably, we observed an emphasis on the need for large and robust data sets as well as on the importance of establishing the accuracy of the technology. Participants also prioritized considerations of access and equity and identified the need to account for different risk tolerances on the part of patients and providers. We also identified a number of additional themes and key messages emerging from the larger group discussion relating to benefits of the technology and its application, challenges regarding development and implementation, priorities for future work in this area and considerations that were tailored to the Saskatchewan context.

**Conclusion:** AI-based imaging analytics offer various anticipated benefits including improved patient outcomes, resource maximization and advances in knowledge. However, optimizing these potential advantages will require access to appropriate data (balanced with privacy protections), financial investment, and effective communication and collaboration between different healthcare sectors. Continued interdisciplinary research will be important.

**Author Names:** Amy Zarzeczny, University of Regina; Justin Longo, University of Regina

## *A Gender Transformative Analysis of Policy Response to the Opioid Use and Overdose Crisis*

Ms. Martha Paynter, Dalhousie University

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**Category:** Oral Presentation

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** The overdose crisis in Canada has caused the deaths of an estimated 14,000 people. Policy responses have lacked considerations of the sex, gender and intersecting differences in the experiences of people who use drugs. Clinical research has found women experience substance use disorder differently, such as worse symptoms of withdrawal and greater likelihood of relapse. Women, trans and nonbinary people have gendered experiences of sexualized violence, a traumatic precursor to substance disorder.

**Approach:** Current overdose prevention policy in Canada lacks a gender transformative approach that advances gender equality. For this policy evaluation, we reviewed the literature using gender-based and intersectional analysis to develop a gender transformational framework that includes biological, clinical, social and economic variables affecting opioid use. We highlight selected provincial policies to demonstrate its application.

**Results:** There is a lack of sex/gender-disaggregated data collection in relation to the opioid crisis in Canada. Overdose mortality data, opioid replacement treatment use and other key variables are not systematically disaggregated. Child protection services involvement with patients who use opioids is collected ad-hoc. Opioid use and parental sex/gender is not collected by Child Protection Services in child removal cases in all provinces. Silos in government departments challenge gender transformative responses. Due to the elevated risk of opioid use disorder among people who have experienced abuse, there is a need for gender and trauma-informed approaches.

**Conclusion:** Across Canada, policy to address the opioid crisis must begin with the collection and analysis of sex and gender-disaggregated data. Supported interventions must centre sex and gendered experiences to advance equity.

**Author Names:** Martha Paynter, Dalhousie University; Fiona Martin, Dalhousie University Department of Sociology and Social Anthropology; Meaghan Thumath, Oxford University and Centre for Gender and Sex Health Equity



*A case-control study of the Sub-Acute care for Frail Elderly (SAFE) Unit on hospital readmission, emergency department visits and continuity of post-discharge care*

Ms. Annie Sun, Bruyere Research Institute

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Lack of appropriate post-acute care options for patients who don't require the intensity of services provided in acute care settings contributes to a dependency on alternative-level-of-care (ALC) beds in hospitals, leading to bottlenecks in the healthcare system. We examined the effectiveness of a transitional care program, the Sub-Acute care for Frail Elderly (SAFE) Unit, which is a specialized 20-bed unit based at the Perley and Rideau Veterans' Health Centre with a focus on restorative care.

**Approach:** A case-control study comparing the outcomes of frail, elderly patients aged 60 years and over who received care in the SAFE Unit between March 1, 2018 and February 28, 2019 (n=153) to matched controls comprising of other hospitalized patients (n=1,773). To create the matched controls, we used a logistic regression that adjusted for demographic and health characteristics including age, sex, chronic conditions and presence of lower respiratory tract infections. Outcomes investigated included length-of-stay (LOS) during the index hospitalization, 30-day odds of post-discharge emergency department (ED) visits, hospital readmission, and follow-up with family physicians.

**Results:** SAFE patients had a median hospital LOS of 13 days (IQR: 8-19 days) with 75% having fewer than one day in an ALC bed. In comparison, the median LOS in the control group was 15 days (IQR: 10-24 days), with one-third of those days spent in an ALC bed (median: 5 days, IQR: 3-10 days). SAFE patients were more likely (64.1%) to be discharged to home than control patients (46.3%). Both groups experienced similar 30-day odds of ED visits, hospital readmission and follow-up with a family physician. Among those with a location code of at least one follow-up family doctor visit, SAFE patients had more consultations that took place in doctor's office (80.8%) than control patients (46.5%).

**Conclusion:** Function-focused transitional care programs, such as the SAFE Unit, is an effective, person-centered approach to care. Frail older individuals in the SAFE Unit experienced shorter hospital stays, were less likely to be discharged to settings other than home and had similar 30-day outcomes as less medically complex ALC patients post-discharge.

**Author Names:** Annie Sun, Bruyere Research Institute; Amy Hsu, Bruyère Research Institute; Benoit Robert, The Perley and Rideau Veterans' Health Centre; Danielle Sinden, The Perley and Rideau Veterans' Health Centre; Sarah Spruin, ICES UOttawa

## *Improving communication at the end-of-life in long-term care: A mixed-methods study*

Ms. Annie Sun, Bruyere Research Institute

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**Category:** Oral Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Continued enhancement of communication skills is crucial for long-term care (LTC) staff to foster therapeutic relationships with residents who are near the end of life and their families. This study evaluated the impact of the Communication at End-of-Life program developed by the Ontario Centre for Learning, Research and Innovation (CLRI) in Long-Term Care at Bruyère on the confidence and capacity of personal support workers (PSWs) to engage in end-of-life conversations in the LTC setting.

**Approach:** We conducted a mixed methods study of participants from 35 LTC homes across Ontario who received Communication at End-of-Life training through the CLRI. We performed a quantitative analysis of pre- and post-workshop surveys (n=114 pre-workshop; n=101 post-workshop) that captured three domains, including: (1) attitudes and beliefs towards death and dying; (2) relationships with families and residents; and (3) active participation in end-of-life care. We also conducted in-depth interviews between February and March 2019 with PSWs (n=21) to examine factors that facilitated or hindered their ability to offer palliative care support and engage in end-of-life conversations with residents in LTC homes.

**Results:** The greatest improvements were observed in the domain of relationships with families and residents, where there was a 15.6% increase in the proportion of participants who responded 'Often' or 'Always' to statements in this domain. Notable improvements were seen in PSWs' confidence to speak with families and residents about end-of-life, discuss goals and plans with residents and families, and their belief that a 'good death' is possible. Staff shortage and time constraint were recurrent themes that hindered the participants' capacity to provide good palliative care to meet the needs of residents, and to apply skills and knowledge gained from the training program. PSWs also cited a general need for training that will enhance LTC staff's clinical knowledge, cultural sensitivity and awareness when providing palliative care.

**Conclusion:** This pilot study demonstrated that the CLRI's Communication at End-of-Life education program has the potential to improve PSWs' confidence and competency in supporting a palliative care approach in the LTC setting.

**Author Names:** Annie Sun, Bruyere Research Institute; Amy Hsu, Bruyère Research Institute; Zsófia Orosz, Ontario Centre for Learning, Research and Innovation in Long-Term Care at Bruyère; Michelle Crick, Ontario Centre for Learning, Research and Innovation in Long-Term Care at Bruyère



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politiques de la santé

CAHSPR Annual Conference 2020

**ADVANCING HEALTH EQUITY:  
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TCU Place • Saskatoon, SK

## Panel Presentations

## *Learning from our neighbours with provincial health system studies*

Dr. Sara Allin, University of Toronto

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**Category:** Panel Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Provincial/territorial (PT) health system reforms tend to occur in waves, as each province and territory struggles with similar health and policy challenges and borrows policy ideas from one another. Despite the high degree of health system decentralization in Canada that yields considerable variation in the functioning of health systems, reform patterns emerge. The recent trends toward centralization, or “reverse regionalization”, and collaborative care integration are two examples. This panel will attract PT decision makers, students and researchers interested in the promising practices and lessons extracted from leading policy and system reforms through NAO's in-depth provincial health system studies.

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** The panel features experts producing detailed health system profiles for selected provinces. Drawing on an adapted template developed by the European Observatory on Health Systems and Policies, these studies, edited and produced by the North American Observatory on Health Systems and Policies (NAO) and University of Toronto Press, facilitate comparative health policy and systems analysis. The profiles systematically describe health system governance, regulation, financing, and delivery, review recent reforms, and provide an overall assessment of the health system. They provide insight into the often subtle but significant ways in which PT systems are similar and different, and inform policy learning.

**Approach:** This panel, moderated by Sara Allin, Assistant Professor and NAO Director of Operations, University of Toronto, brings together researcher and decision maker perspectives on subnational comparative research. Each expert will present the story of their health system with the overarching themes of the two recent reform trends: administrative centralization and integration and coordination of care across health sectors. Marchildon will speak about sub-national policy learning from the perspective of a former senior health leader. Camillo will offer new insights into the Saskatchewan approach to consolidating health regions into a single health authority while allowing for sub-provincial variation in care design and delivery. Church will share key messages from the Alberta study, providing new evidence one decade after abandoning regionalization, and the impacts of the strategic clinical networks to improve care integration. Bornstein will share the story of the Newfoundland & Labrador health system history and its incremental approach to reform.

**Invited Experts:** Cheryl Camillo, University of Regina

Dr. Camillo is Assistant Professor with the Johnson Shoyama Graduate School of Public Policy and lead author of the Saskatchewan study, also a former senior federal and state health policymaker in the United States.

Greg Marchildon, University of Toronto

Dr. Marchildon is Professor and Ontario Research Chair in Health Policy and System Design. He has held senior health leadership including as Deputy Minister to the Premier and Cabinet Secretary in the Government of Saskatchewan, and Executive Director of the Romanow Commission.

John Church, University of Alberta

Dr. Church is Associate Professor of Political Science and lead author of the forthcoming Alberta Health System study.

Stephen Bornstein, Memorial University

Dr. Bornstein is Professor of Political Science (in the Faculty of Humanities and Social Sciences) and in Community Health and Humanities (in the Faculty of Medicine), and lead author of the forthcoming Newfoundland & Labrador study.

**Author Names:** Sara Allin, University of Toronto; Gregory Marchildon, University of Toronto; Cheryl Camillo, Johnson Shoyama Graduate School of Public Policy; John Church, University of Alberta; Stephen Bornstein, NLCAHR

## *Exploring neurodegenerative diseases with health services research*

Dr. Susan Bronskill, ICES

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**Category:** Panel Presentation

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** As populations worldwide are living longer, the impact of neurodegenerative diseases on health resource utilization is expected to increase. Providing care to older adults with these conditions is challenging and requires adequate supports across multiple health sectors including community, acute care and long-term care settings to allow individuals to maximize their quality of life. The Ontario Neurodegenerative Disease Research Initiative (ONDRI) is a research program funded by the Ontario Brain Institute that aims to improve diagnosis, treatment and management of neurodegenerative diseases including Alzheimer's disease and related dementias, Parkinson's disease, amyotrophic lateral sclerosis (ALS), and cerebrovascular disease with/without cognitive impairment.

**Methods:** Statistics/ Econometrics

**Background and Objectives:** This panel presentation will: summarize existing knowledge gaps and health services research needs in planning and optimizing healthcare for older adults with neurodegenerative conditions; illustrate how health administrative databases can be used to study health system utilization and outcomes of older persons with neurodegenerative conditions using a variety of study designs across several different conditions; and highlight common challenges experienced at a provincial and national level in health services research of older adults with neurodegenerative diseases to promote future collaborations.

**Approach:** The ONDRI Health Services Research Platform is embedded within a network of biomedical and clinician researchers, provincial decision-makers and health system stakeholders. Using population-based linked health administrative and clinical databases available at ICES--covering over 14 million individuals residing in Ontario -- the ONDRI Health Services Research Platform will address knowledge gaps regarding the health service utilization and outcomes of older adults with neurodegenerative diseases, and the associated impacts on family and care partners. This session will explore how health administrative databases may be used to address these knowledge gaps, using examples from: trajectories for dementia care, sex differences in care needs among those admitted to long-term care following stroke, identifying potentially disease-modifying drugs in Parkinson's disease using artificial intelligence and pharmacoepidemiology methods, and multimorbidity of neurodegenerative diseases and mental health disorders.

**Invited Experts:** Dr. Susan Bronskill, Senior Scientist, ICES, Associate Professor, University of Toronto. Her research focuses on quality of care and health care outcomes for older adults. Dr. Bronskill has led and collaborated on national initiatives related to dementia and aging. Dr. Colleen Maxwell, Professor, University of Waterloo, Adjunct Scientist, ICES. Her research interests are in pharmacoepidemiology and aging with a focus on Alzheimer's disease and health services research. Dr. Maxwell sits on advisory panels for the Public Health Agency of Canada. Laura MacLagan, Senior Epidemiologist, ICES. Ms. MacLagan manages the ONDRI Health Services Research Portfolio at ICES. Her recent work has examined prescribing patterns in older adults with dementia. Michael Campitelli, Staff Scientist, ICES. His recent work focuses on medication use in long-term care and home care residents. Dr. Richard Swartz, Neurologist, Director, Sunnybrook Health Sciences Centre Stroke Research Unit, ONDRI co-lead. His research interests include cerebrovascular and neurodegenerative diseases.

**Author Names:** Susan Bronskill, ICES; Colleen Maxwell, University of Waterloo; Laura MacLagan, ICES; Michael Campitelli, ICES; Richard Swartz, Sunnybrook Health Sciences Centre

**Category:** Panel Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Stigma is a serious issue and is particularly harmful in the health system, preventing people from accessing services needed to achieve optimal health. Canada's Chief Public Health Officer recently released the 2019 State of Public Health In Canada report Addressing Stigma: Towards a More Inclusive Health System, about understanding and addressing stigmas related to social identities/characteristics and health conditions (e.g. race, gender, substance use disorders, etc.). The report also offers an Action Framework for addressing stigma in the health system that helps identify where negative health impacts occur and why stigma is a fundamental driver of health inequities.

**Methods:** Mixed Methods

**Background and Objectives:** 1. Examine how stigmas associated with social identities and health conditions contribute to negative health outcomes of stigmatized individuals and groups.

2. Explore interventions to address stigma at different levels in the health system (individual, interpersonal, institutional, and population).

3. Highlight research, and projects being done, locally and nationally, with communities experiencing stigma (sexual orientation, HIV Status, race) and identify areas for new research.

4. Share research and policy planning principles to help address stigma in project design and policy development.

5. Participants will be equipped to build capacity to develop initiatives that can address intersecting stigmas in their organization's research activities and policies.

**Approach:** The session will be a moderated discussion. It will introduce participants to the Action Framework for Building an Inclusive Health System, which includes examples of evidence-based interventions to eliminate stigma at the individual, interpersonal, institutional, and population levels. Participants will explore the importance of addressing intersectional stigma, and discuss how to develop and implement evidence-based actions from designing research and surveillance to updating policies and training in health system organizations. Panelists will bring their experience and expertise in addressing stigma for discussion and questions. The panel will describe research and projects their organizations have done or that they are currently undertaking, and highlight opportunities for further research. Participants will have the opportunity to ask questions about the panelists current research, and discuss initiatives to address intersecting stigmas in their organizations' research activities, and policies.

**Invited Experts:** Neal Kewistep MPA BA - Executive-in-Residence, Johnson Shoyama Graduate School of Public Policy. And former Interim Director of the Population Public Health in the Saskatchewan Health Authority.

Rachel Loewen Walker - BA, MA, PhD Executive Director of OUTSaskatoon. OUTSaskatoon builds community for 2SLGBTQ people of all ages and backgrounds.

Amanda Galambos BA - Program Coordinator Saskatchewan Infectious Disease Care Network; currently leading the HIV Primary Care Capacity Improvement Project to address stigmas leading to reduced rates, and improved lives of those living with HIV.

Dr. Sidd Kogilwaimath MD - Infectious Diseases specialist with the Saskatchewan Health Authority. He is the medical co-lead for the Saskatoon based Positive Living Program which manages HIV patient care at the Royal University Hospital, and a member of SIDCN.

Barb Rawluk - Regional Manager Public Health Agency of Canada Public Health Capacity and Knowledge Management Unit. Barb is the regional Agency lead promoting the Stigma Report.

**Author Names:** David Kitchen, Public Health Agency of Canada; barbara rawluk, Public Health Agency of Canada; Theresa Tam, Public Health Agency of Canada

## *Addressing health inequities in research and policy development: the value of an intersectional lens*

Dr. Elena Lopatina, University of Calgary

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**Category:** Panel Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Many health inequities are a result of unintended consequences of policies that disadvantage individuals with varying characteristics (e.g., race, gender, sexuality, disability). Intersectionality offers a lens for understanding how multiple interrelated aspects of an individual's identity interplay with policies to result in inequities. For instance, separately considering class, race and sexuality may fail to capture complex nature of discrimination and health inequities faced by an indigenous homeless queer woman. Incorporating intersectionality as a guiding conceptual framework in all phases of research and policy development can understand complex causes of health inequities and inform development of policy solutions to address them.

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** The objectives of this workshop are:

1. To provide a brief overview of intersectionality theory and its key concepts;
2. To discuss the importance of intersectionality as a guiding framework for health research and health policy development;
3. To present experiences with applying an intersectionality lens in health research and evidence-informed policy development, including important considerations for this research, as well as lessons learned and best practices.

**Approach:** This panel session has been organized by the CAHSPR Graduate Student Working Group and aligns with the theme of the 2020 annual CAHSPR conference "Advancing Health Equity: Identifying Barriers and Solutions". The panel will commence with a brief overview of intersectionality theory and how it could be used as a guiding framework for health research and policy. Subsequently, the expert panelists will speak about the role of intersectionality in their own work and discuss considerations (facilitators and barriers) for applying intersectionality in research and policy development. Bringing together leaders in research and policy from diverse fields (indigenous health, access to health services for people with physical and intellectual disabilities, policies for LGBTQ2S+ people, and refugee health) will allow for a comprehensive discussion of how intersectionality can be applied to address health inequities in research and policy development. This panel will be of interest to trainees, academics, and health system stakeholders.

**Invited Experts:** This panel will bring together experts in the application of intersectionality to understand and minimize health inequities in research and policy from diverse fields, including:

1. Member of the First Nation Métis Relations, Saskatchewan Health Authority;
2. Amanda Guthrie, an Education Manager at the OUTSaskatoon community for LGBTQ2S+ people;
3. Dr. Rachelle Hole, an Assistant Professor in the Faculty of Health and Social Development at the University of British Columbia and co-director of the University of British Columbia Canadian Institute on Inclusion and Citizenship;
4. Dr. Karen Leis, an Assistant Professor at the University of Saskatchewan and a General Pediatrician at the Refugee Clinic in Saskatoon;
5. Dr. Mary Ann McColl, a Professor in the School of Rehabilitation Therapy at Queen's University and the Academic Lead for the Canadian Disability Policy Alliance;
6. Dr. Melanie Morrison, a Professor at the Saskatchewan Equity, Equality, and Diversity (SEED) Lab, University of Saskatchewan.

**Author Names:** Elena Lopatina, University of Calgary; Rachelle Hole, UBC Okanagan; Karen Leis, University of Saskatchewan; Mary Ann McColl; Melanie Morrison, University of Saskatchewan; 2. Amanda Guthrie, OUTSaskatoon; Yvonne Tessier, Saskatchewan Health Authority; Kaitlyn Tate, University of Alberta; Stephanie Garies, University of Calgary; Élizabéth Côté-Boileau, University of Sherbrooke; Isabelle Dena, University of Saskatchewan; Mélanie Ann Smithman, Université de Sherbrooke; Derek Manis, McMaster University; Kimberly Manalili, University of Calgary; Oluwasegun Jko Ogundele, Maastricht University



## *Rewarding Success: Changing the Paradigm of How Research Is Designed and Rewarded*

Dr. Jessica Nadigel, CIHR - Institute of Health Services and Policy Research

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**Category:** Panel Presentation

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** International health system comparisons reveal Canada's poor performance on several measures when assessed against comparable countries, even though Canada is one of the highest spenders on healthcare. To sustain Canadian healthcare, it is essential that process transformations that improve health outcomes and value for money are implemented in the health system.

In-line with the recent movement of organizations experimenting with innovative funding models, CIHR partnered with four Canadian provinces to pilot the Rewarding Success Initiative, which incentivizes research teams to develop effective partnerships with health system payers and together, implement health system solutions that will enhance value-based care.

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** The overall goal of the Rewarding Success Initiative is to implement innovative process transformations that improve health outcomes and value for Canada's healthcare investment.

The objectives of this panel are to explore the value of using this innovative health research funding mechanism. Specifically, the panel will discuss how the research program benefited from the Rewarding Success Initiative process, the benefits and challenges from each of the panelist's perspectives in integrating the policy-makers into the research and negotiating contracts and outlining the project's potential impact the outset of the project, as well as how the model enabled the teams to achieve impact.

**Approach:** Rewarding Success was co-designed by CIHR and participating provinces to support innovation and impact. Teams of patients, healthcare organizations, clinicians, and researchers collaborated to design, implement, and evaluate programs that improve value-based care while simultaneously addressing provincial priorities. The teams partnered with payers of health services who recognized the identified challenges and agreed to pay for successful improvement in outcomes and efficiencies or a reduction in low-value services. Teams and their payers worked together to determine which outcomes to evaluate, the metrics to measure, and the value and mechanism of the payback. If agreed-upon outcomes are achieved, the payer will allocate funds towards future impactful research projects.

This panel will showcase the Rewarding Success process from the viewpoint of the researcher, the patient, and the policymaker from a team working on a software application that allows providers to document adverse drug events and communicate this information across providers and health sectors.

**Invited Experts:** The invited experts will cover a range of perspectives, bringing a richness to the discussion:

Dr. David Klein, Associate Scientist at the Li Ka Shing Knowledge Institute. Dr. Klein will be providing an overview of different types of innovative funding models and mechanisms.

Dr. Jessica Nadigel, Associate Director of CIHR-IHSPR. She will speak about the three-year journey from the conception of the Rewarding Success Initiative to funding the successful teams.

Dr. Corrine Hohl, Associate Professor at UBC. Dr. Hohl will speak about how her research project benefited from the Rewarding Success process.

Ms. Johanna Trimble is a passionate patient advocate and a member of several patient groups and will speak about her experience as a patient partner on this project.

Pharmaceutical Services Division of BC's MOH leads the Province's drug program. The organization will speak to their partnership with a Rewarding Success research team.

**Author Names:** Jessica Nadigel, CIHR - Institute of Health Services and Policy Research; Erica Dobson, Canadian Institutes of Health Research; Nancy Mason MacLellan, Canadian Institutes of Health Research (CIHR)



*Public engagement and involvement in Canadian data-intensive health research: some emerging findings and lessons learned through SPOR-supported activities*

Dr. P. Alison Paprica, IHPME, University of Toronto

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**Category:** Panel Presentation

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** The key premise of the Consensus Statement on Public Involvement and Engagement with Data-Intensive Health Research is “the public should not be characterised as a problem to be overcome but a key part of the solution to establish socially beneficial data-intensive health research for all.” However, working with members of the public (vs. patients) brings new challenges including the fact that there are multiple “publics” with differing perspectives. Additionally, population health research is conceptually complex and hard to understand. Given major investments and widespread interest in health data research, there is a need to work together on these challenges.

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** Through their SPOR-supported work with members of the public, the invited experts have identified important emerging questions such as: which members of the public to involve in data-intensive health research, how to engage them, what could/should public members’ roles be and how do those compare to what the members want or expect to do, how to ensure that public involvement is meaningful, and how to demonstrate accountability to the people you engage with? The objectives of this panel are to share panelists’ emerging findings and lessons learned and exchange knowledge with the audience, in an engaging way.

**Approach:** The panelists will briefly introduce themselves and their work related to public engagement and involvement (~3-4 minutes each). Most of the time (~45 minutes) will be spent interacting with the audience through live polling. The moderator will post a series of ~10-12 poll question such as “What is the most important thing for meaningful public engagement?” to prompt audience thinking on the topic. After the audience responses are revealed, several of the panelists will share their own views about what they think is the best answer, and the main reason(s) behind their choice. The last 15 minutes of the session will be reserved for Q&A and dialogue with the audience. The overall goal of this approach is to surface emerging and tacit knowledge from presenters and the audience.

**Invited Experts:** Moderator: Michael J. Schull

Panelists: Kimberlyn McGrail, Frank Gavin, Jenine Paul, P. Alison Paprica

The invited experts have leadership roles in various aspects of public engagement and involvement associated with research and data platforms supported by CIHR’s Strategy for Patient-Oriented Research (SPOR): SPOR Canadian Data Platform (KM, FG, MJS, PAP), ICES (MJS, JP) and PopData BC (KM) which are the data platform leads within the Ontario and BC SPOR SUPPORT Units respectively, and CHILD-BRIGHT SPOR Network (FG).

**Author Names:** P. Alison Paprica, IHPME, University of Toronto; Michael Schull, Institute for Clinical Evaluative Sciences; Kimberlyn McGrail, School of Population and Public Health, University of British Columbia; Centre for Health Services and Policy Research, University of British Columbia ; Frank Gavin, CAHSPR; Jenine Paul, ICES

## *Barriers and solutions to rural health system performance to improve health equity*

Dr. James Rourke, Society of Rural Physicians of Canada

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**Category:** Panel Presentation

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Many Canadians living in rural and remote communities have a higher burden of illness, reduced life expectancy, and are often older, poorer, and sicker than urban populations. With more difficult access to healthcare, they have worse healthcare outcomes. Urban-based health research generally does not reflect an understanding of rural realities and often leads to policies, planning, programs and practices that do not work well in rural communities. To improve the health of rural Canadians a renewed approach to address health inequities is needed. Rural communities need rural-based solutions and to develop regional capacity to innovate, and discover what works.

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** 1. Develop an understanding of the barriers to rural healthcare and outcome equity in terms of access, quality, human resources, research and systems management;  
2. Gain perspectives from leaders in education, practice, research and health organization who have used elements of the Rural Road Map that have improved healthcare outcomes, built networks of care and stimulated rural and remote community innovation and;  
3. Identify some barriers and solutions to rural health inequities in their regions using the Rural Road Map as a pan-Canadian guide to rural healthcare planning that articulates jurisdictional and sector roles and inter-jurisdictional collaboration

**Approach:** The panel will share examples of policy, planning, program and practice barriers to equitable, safe, effective and culturally responsive rural healthcare. They will reflect upon their rural health leadership roles in medical education, maternity care, Indigenous care, health and education systems, and rural research. Panelists will share initiatives that are showing signs of success. They will discuss how the RRM has catalyzed rural healthcare improvements within and across organizations and jurisdictions and use by all levels of government in Canada, policy-makers, national medical organizations and universities. Participants will have an opportunity to dialogue about possible solutions and how to build further partnerships collaboratively to catalyze further action. Participants will leave this session with a firm understanding of the interplay and value of collaboration needed between research, education, policy, planning and practice to make significant change in delivering rural and remote healthcare at the regional and systematic levels.

**Invited Experts:** James Rourke MD, FCFP (rural health research)

Chair RRMIC, former Dean of Medicine and Professor of Family Medicine, Memorial University of Newfoundland

Alexandra King MD FRCPC (rural indigenous care)

RRMIC member, Nipissing First Nation, Cameco Chair in Indigenous Health and Wellness, University of Saskatchewan

Joanne Siverston MD. FRCPC (rural maternity care)

Prince Albert, Obstetrician, Past-president Saskatchewan Medical Association

Bryan Maclean (rural physician recruitment and retention)

RRMIC Member, Canadian Association of Staff Physician Recruiters, Saskatchewan

Tom Smith-Windsor MD, FCFP, (rural medical education)

RRMIC member, Saskatchewan rural family physician, past-president Society of Rural Physicians of Canada

Preston Smith MD, FCFP (rural health and education system organization)

RRMIC member, Dean of Medicine and Professor Family Medicine, University of Saskatchewan

Kevin Wasko, MD (rural hospital services)

Physician Executive, Integrate Rural Health, Saskatchewan Health Authority

**Author Names:** James Rourke, Society of Rural Physicians of Canada; Alexandra King, University of Saskatchewan; Joanne Siverston, Saskatchewan Medical Association; Bryan MacLean, Northern Medical Services -- College of Medicine, University of Saskatchewan; Tom Smith-Windsor, University of Saskatchewan College of Medicine; Preston Smith, University of Saskatchewan College of Medicine; Kevin Wasko, Saskatchewan Health Authority

## *Accelerating Primary Care Transformation Across Canada: Lessons Learned from Collaborative Approaches to Design and Evaluation in Primary Healthcare*

Dr. Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority

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**Category:** Panel Presentation

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Primary care transformation initiatives currently underway in numerous Canadian jurisdictions aim to ensure that all individuals, across varied settings and communities, are able to access efficient, coordinated and comprehensive primary healthcare services. The success of these efforts relies on effective collaboration between researchers, policy makers, patients/families and providers to improve understanding of: 1) how best to design and implement models of team-based, primary healthcare that meet the health and social care needs of the individuals/communities they serve; and 2) appropriate methods for ascertaining the quality, impact and overall value of these models from patient, provider, population, and health-system level perspectives.

**Methods:** Mixed Methods

**Background and Objectives:** The objectives of the panel are: 1) to compare approaches to integrating research, policy and practice to support the development of innovative models of primary healthcare in Canada; 2) to summarize key innovations and initiatives in primary care transformation in multiple provinces and how they have been supported by collaboration between policy makers, researchers, patients and providers; 3) to discuss key facilitators and barriers to effective collaboration; 4) to identify processes and mechanisms to enhance patient/family/community involvement in health-system planning and service delivery; 5) to share recommendations for improvement in the quality and effectiveness of collaborations in primary healthcare.

**Approach:** This panel brings together health-system decision makers and leaders in primary care research from 5 Canadian provinces. Panel participants will describe innovations in primary care transformation and findings from primary care research and evaluation initiatives in their provinces with a particular emphasis on initiatives undertaken by health authorities across Canada to advance interprofessional team-based primary healthcare. Patient collaborators will be present to contribute to the discussion of patient engagement and co-design. The final 30 minutes of the allotted time will be used to conduct an interactive discussion between the audience and panelists in order to explore other innovations in team-based care and primary healthcare transformation, and opportunities for developing inter-jurisdictional capacity for primary care research, evaluation and knowledge exchange.

**Invited Experts:** Tara Sampalli, Senior Scientific Director, Research and Innovation, Nova Scotia Health Authority, will discuss a review of collaborative care models in Nova Scotia. Erin Strumpf, Associate Professor, McGill University; Researcher in residence, INESSS, will share new approaches to evidence-informed quality improvement and patient-partner collaboration in primary care in Quebec. Walter Wodchis, Research Chair, Implementation and Evaluation Science, Institute for Better Health; Professor, University of Toronto will provide an overview of team-based care in Ontario and emerging evaluation approaches and results. Ted Braun, Vice President and Medical Director for Central and Southern Alberta Health Services; Clinical Professor in the Departments of Family Medicine and Oncology at the University of Calgary will describe efforts to integrate Primary Care Networks and health neighbourhoods. Sabrina Wong, Centre for Health Services and Policy; Professor School of Nursing University of British Columbia, will discuss implementation of team-based care within Primary Care Networks across British Columbia.

**Author Names:** Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority; Walter Wodchis, University of Toronto; Sabrina Wong, University of British Columbia; Erin Strumpf, McGill University; Ted Braun, Alberta Health Services

## ***PARTNERSHIPS FOR RACIAL EQUITY IN HEALTH***

**Dr. Lloy Wylie, Western University**

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**Category:** Panel Presentation

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Indigenous Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Racism continues to have a profoundly negative affect on the health and well-being of people and communities. Discrimination, particularly anti-Indigenous and anti-Black racism, perpetuates health inequities in profound ways. This panel will continue a dynamic conversation on racism and health, with a focus on improving health professional education to ensure competencies in health equity. There is a need for changes in healthcare that focus on the family, education and training that promotes community well-being approaches among healthcare providers, and reducing systemic barriers including racism and discrimination.

**Methods:** Qualitative Research Methods

**Background and Objectives:** This panel will share research on racialized outcomes of health services and policy in Canada. Learning Objectives: 1) Compare and contrast different levels and forms of racism and their impact on health; 2) Discuss barriers to equitable partnership building and engagement; 3) Identify promising approaches for collaboration and partnerships to address racial inequities in public health and health care. Participants will increase their understanding of racism and its impacts, and explore initiatives that can advance a culture of racial equity. The panel will explore how to build and maintain partnerships to have a powerful impact on racialized health inequities.

**Approach:** Danielle Alcock, PhD is Anishanaabe kwe and a member of the Chippewas of Rama First Nation. She is the Indigenous leader in residence for the Schulich School of Medicine at Western University. Her research uses storytelling of Indigenous caregivers and health care providers working with families affected by dementia.

Sume Ndumbe-Eyoh is the Senior Knowledge Translation Specialist with the National Collaborating Centre for Determinants of Health. Sume has professional experience in equity-focused organizational and community development and change, social justice education, HIV/AIDS prevention, research, knowledge translation, evaluation and women's rights with local, provincial and global organizations.

Lloy Wylie, PhD is a professor of Public Health in the Schulich School of Medicine at Western University. She brings expertise in health equity education, policy and practice, with a focus on Indigenous, immigrant and refugee health. She uses community engaged learning to develop innovative health professional education curricula in health equity.

**Invited Experts:** This panel will present the results of health services research looking at the experiences of racialized people as they navigate their health care, through sharing stories of these health care journeys. Using innovative knowledge translation strategies of storytelling, self-reflective exercises, forum theatre, and visual arts, this panel will help participants express and explore experiences of racialization and othering that perpetuates inequities in health. Through reflecting on the Truth and Reconciliation Commission calls to action, this panel will explore how to advance culturally safe practices through anti-racism dialogue and action, through building partnerships for action uniting against racialized oppression. The anticipated outcome of the panel and the participant engagement is to have participants return to their workplaces with key strategies, tools, and promising practices to advance racial equity through partnerships and effective engagement to create systems change.

**Author Names:** Lloy Wylie, Western University; Danielle Alcock, Western University; Sume Ndumbe-Eyoh , National Collaborating Centre for Determinants of Health

## *The Commonwealth Fund International Health Policy Survey: Accessing and analyzing the data*

Mrs. Alison Ytsma, CIHI

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**Category:** Panel Presentation

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** The Commonwealth Fund's International Health Policy Survey is a rich dataset that provides internationally comparable data not found elsewhere. In addition to providing a national perspective it also allows provinces to be compared internationally allowing researchers to see the variation between provinces in different areas of care.

The surveys contain information from both a patient and a physician's perspective, allowing researchers to contrast patients' experiences with physician-reported views. This data can be leveraged both as a main data source or to add contextual information to current research projects.

**Methods:** Survey Research Methods

**Background and Objectives:** Researchers will learn how to access and analyze data from the Commonwealth Fund survey. This will include what data is available, how to request it, and how to use it to answer questions related to physicians experiences. Topics such as physician satisfaction, practice organization, access to care, coordination of care and use of IT are included in the survey. An example of a question that can be answered by the dataset is whether providing ability to book appointments online differs by practice type, physician age or region. Information covered will also include data quality, trending, and statistical testing.

**Approach:** The proposed format for this panel is a workshop. Data experts from CIHI will teach participants how to use the data in the interactive format. The workshop will be lead by Alison Ytsma (Program Lead) and Chris Kuchciak (Manager) who have lead CIHI's Commonwealth Fund line of work. The Canadian Institute for Health Information is the Canadian Partner of the Commonwealth Fund and provides methodological expertise when it comes to deciding sampling strategy and statistical approach.

**Invited Experts:** The proposed format for this panel is a workshop. Data experts from CIHI will teach participants how to use the data in the interactive format. The workshop will be lead by Alison Ytsma (Program Lead) and Chris Kuchciak (Manager) who have lead CIHI's Commonwealth Fund line of work. The Canadian Institute for Health Information is the Canadian Partner of the Commonwealth Fund and provides methodological expertise when it comes to deciding sampling strategy and statistical approach.

**Author Names:** Alison Ytsma, CIHI; Liudmila Husak, CIHI; Christopher Kuchciak, CIHI; Xinbei "Annie" Zhao, CIHI; Alain Yao, CIHI; Grace Cheung, ; Gilles Fortin, CIHI; Kent Maclean, CIHI; Rabab Wali, Canadian Institute for Health Information; Tracy Johnson, ; Vanessa Sovran, CIHI



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## Posters

## *Determinants of implementation of the advanced access model among nurses: a cross-sectional survey in Québec.*

Mrs. Sabina Abou Malham, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Nurses are key players in improving primary healthcare (PHC). They are engaged in several innovations in primary care to reduce wait times and improve timely access. Few studies have been conducted on nurses to understand their central role in implementing those innovations. This study aims to explore determinants that influence the implementation of the advanced access (AA) model among nurse practitioners and registered nurses in primary healthcare settings in Quebec.

**Approach:** We conducted a cross-sectional survey among two categories of nurses; nurse practitioners [NPs], and registered nurses [RNs] at 25 family medicine groups in the Estrie region (March - May 2018). Surveys were completed by 16 NPs and 45 RNs (response rate of 50% and 52%, respectively). Surveys were adapted from the Measurement Instrument for Determinants of Innovations to assess barriers and facilitators of the implementation of AA. Five point Likert scale questions (completely disagree to completely agree) were used. Determinants to which  $\geq 20\%$  of nurses responded with "totally disagree/disagree" and  $\geq 80\%$  responded with "agree/totally agree" were considered barriers and facilitators.

**Results:** The majority of nurses working in PHC have experienced the AA model (NPs: 81 %; RNs: 93%). NPs and RNs both reported barriers to the implementation of AA which were mostly related to the 1) organizational level: regular feedback on the use of AA (NPs: 58.3%; RNs: 52.9%), formal ratification of the AA model by management (NPs: 50%; RNs: 58.3%), information accessibility on the use of AA (NPs: 40%; RNs: 45.5%). However, compared to NPs, RNs identified additional barriers in terms of human nursing resources (23.5%) and time to integrate AA in their daily practice (23.5%).

Regarding 2) the user level, expected outcomes such as loss of follow-up (NPs: 53.3%; RNs: 42.4%) and excessive workload (NPs: 26%; RNs: 20.6%) were highlighted in both groups.

**Conclusion:** A key healthcare priority in Québec to reduce wait times is to extend the implementation of AA among all health care providers throughout family medicine groups. Our results can be used to develop implementation strategies that address mainly the organization and users to ensure successful implementation at the provincial level.

**Author Names:** Sabina Abou Malham, Université de Sherbrooke; Lara Maillet, ENAP; Mylaine Breton, Université de Sherbrooke; Isabelle Gaboury, University of Sherbrooke



## *Paths to achieving Sustainable Development Goal 3 in Nigeria: Disentangling social factors that influence childhood mortality in Nigeria*

Dr. Daniel Adeyinka, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Childhood mortality remains a challenge in Nigeria, with little progress towards achieving Sustainable Development Goal 3 (SDG-3). There has been limited evidence about the potential pathways that can inform policies and programmatic actions. The objective of this study was to identify the paths through which social factors (community, household, maternal) determine neonatal, infant and under-five mortalities in Nigeria.

**Approach:** This survival path analysis of the 2016/2017 Nigeria Multiple Indicator Cluster Survey included a weighted population of 30,960 live births within five years prior to the survey. There were three outcome variables: times to survival for neonates, infants and under-five children. The independent variables were layered factors related to child-, maternal-, household- and community.

**Results:** Mothers who had children at least two years apart, were between 20 and 34 years of age, and had female children were associated with better survival of neonatal, infant and under-five mortality. Mothers with post-secondary education were less likely to have infant and under-five mortalities; but not neonatal deaths. In contrast, mothers who had multiple births, especially more than three children had higher likelihood of childhood mortality. In addition, factors such as region and area of residence, infrastructure development, maternal education, contraceptive use, previous birth interval, maternal satisfaction, and maternal age at birth were found to operate indirectly on the neonatal, infant and under-five survival.

**Conclusion:** This study offers comprehensive set of factors at the community, household and maternal level that are associated with childhood survival in Nigeria. In order to accelerate progress towards SDG-3 for Nigeria, stakeholders should implement more aggressive policies that take into factors that are identified here.

**Author Names:** Daniel Adeyinka, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan



## *Sustainable Development Goal 3 in Nigeria: Addressing geographic inequity of neonatal mortality*

Dr. Daniel Adeyinka, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Due to limited evidence of geographic variations of neonatal deaths, it is challenging to implement strategies that would guarantee equitable decline in neonatal mortality across the states and regions in Nigeria. The objective of this study was to determine patterns and determinants of geographical clustering of neonatal mortality at the state and regional level in Nigeria.

**Approach:** With a combination of spatial analysis and artificial intelligence technique, this study analyzed data from 2016/2017 Nigeria Multiple Indicator Cluster Survey. A weighted nationally representative population of 30,924 live births delivered five years before the survey were included in this study. Global Moran's I index, local indicator of spatial autocorrelation and Geary's C cluster maps were used to determine hot- and cold-spots. Multilayer perceptron neural network was used to predict determinants of neonatal mortality across the states and regions in Nigeria.

**Results:** The overall neonatal mortality rate was 38 deaths per 1000 live births. There was significant clustering of neonatal deaths across Nigeria (Moran's I index=0.1, p-value=0.02). North-West and North-Central regions made up significantly higher rates of neonatal deaths (i.e. hot-spots). Multilayer perceptron neural network indicates that correlates of neonatal mortality varied across the six geographical regions. Overall, however, multiple births, previous birth interval, and birth order were the top correlates of neonatal mortality in Nigeria.

**Conclusion:** This study offered evidence indicating wide geographic variations of neonatal mortality across Nigeria. This highlights the need for policy-shift towards implementing context-specific strategies in the states and regions. Culturally and regionally appropriate reproductive, maternal and child health targeted interventions may address geographical inequity in neonatal survival.

**Author Names:** Daniel Adeyinka, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan

## *Poverty and Food Insecurity in Older Adults Living in Subsidized Housing in Ontario*

Dr. Gina Agarwal, McMaster University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Despite existing literature linking food insecurity and poverty rates with poor health in Canadian seniors, there is a knowledge gap on this issue in the growing population of seniors in subsidized housing. This population is difficult for researchers to access and survey. We sought to understand the rates of poverty and food insecurity, as well as the risk factors associated with both outcomes, in older adults living in subsidized housing in Ontario.

**Approach:** A cross-sectional design was used to study data from the Community Paramedicine at Clinic (CP@clinic) program. A total of 806 adult participants residing in designated seniors' or mixed family-seniors' public housing buildings attended CP@clinic within fourteen communities across Ontario. Poverty risk or experience was measured with an evidence-based tool designed to identify poverty in primary care. Food insecurity risk was measured with the Brief Hunger Screening Tool. Physical measures, self-reported health behaviours, diabetes risk, quality-of-life (EQ5D) and medical history were also collected at a face-to-face interview by community paramedics. Descriptive statistics and binary logistic regression were performed.

**Results:** Participants were between the ages of 65 and 84 (64.1%), female (69.5%), did not complete high school (44.3%), lived alone (77.5%), white (74.8%). Rates of poverty and food insecurity were 14.9% and 5.1%, respectively. Statistically significant risk factors associated with poverty were being a smoker (OR=2.38, 95% CI 0.34-1.05), self-reporting feeling extremely anxious and/or depressed (OR=3.39, 95% CI 1.34-8.62), and being food insecure (OR=23.52, 95% CI 8.75-63.22). Statistically significant risk factors associated with food insecurity were being underweight (OR=19.79, 95% CI 1.91-204.80) and self-reporting experiencing poverty (OR=23.87, 95% CI 8.78-64.90). Age was not a significant predictor for either outcome ( $p=0.63$  for poverty and  $p=0.29$  for food insecurity). In those who self-reported being food secure, the dietary habits reported were consistent with a poor diet.

**Conclusion:** The poverty rate was lower than expected which could be related to the surrounding environment and perceptions about wealth. Rates of food insecurity were approximately twice that of the general population of older adults in Canada, which could be related to inaccessibility and increased barriers to healthy foods.

**Author Names:** Gina Agarwal, McMaster University; Melissa Pirrie, McMaster University; Leila Harrison, McMaster University; Ricardo Angeles, McMaster University; Francine Marzanek, McMaster University; Andrea Ziesmann, McMaster University

## *Tinkering at the margins: evaluating the pace and direction of primary care reform in Ontario, Canada*

Dr. Monica Aggarwal, College of Family Physicians of Canada/University of Toronto

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Primary care reform has been on the political agenda in Canada and many industrialized countries; it is the foundation for health system transformation. Nevertheless, Canada lags behind other industrialized nations with respect to timely access, electronic medical record use and audit and feedback for quality improvement. This paper evaluates the pace and direction of primary care reform as well as the extent of resulting change in the organization and delivery of primary care in Ontario.

**Approach:** Qualitative and quantitative methods were used for this study. A literature review was conducted to analyze the core dimensions of primary care reform, the history of reform in Ontario, and the extent to which different dimensions are integrated into Ontario's models. Quantitative data on the number of family physicians/general practitioners and patients enrolled in these models was examined over a 10-year period to determine the degree of change that has taken place in the organization and delivery of primary care in Ontario.

**Results:** There are 11 core reform dimensions that individually and collectively shift from conventional primary care toward the more expansive vision of primary health care. Assessment of Ontario's models against these core dimensions demonstrate that there has been little substantive change in the organization and delivery of primary care over 10 years in Ontario.

**Conclusion:** Primary care reform is a multi-dimensional construct with different reform models bundling core dimensions in different ways. This understanding is important to assess the pace and direction of change in primary care. This conceptual framework can assist decision-makers, academics and providers in evaluating the pace of change in primary care.

**Author Names:** Monica Aggarwal, College of Family Physicians of Canada/University of Toronto; A. Paul Williams, University of Toronto

*Supporting Person-Centred Care: application of implementation science frameworks to inform use of PROMs in routine clinical care within an integrated pain network*

Dr. Sara Ahmed, McGill University

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**Category:** Poster

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** There is evidence to support that Patient Reported Outcome Measures (PROMs) are necessary to capture outcomes that are meaningful to individuals with chronic pain and to support person-centered care. To increase widespread adoption, PROMs must be perceived as meaningful and actionable. The objective of this study was to present the implementation science frameworks that were used before implementing electronic PROMs (ePROMs) across an integrated chronic pain network that includes primary, rehabilitation, and hospital-based

**Approach:** The Theoretical Domains Framework (TDF) (primary care), and the Consolidated Framework for Implementation (CFIR) (rehabilitation and tertiary care) were used to identify potential barriers and enablers to the use of ePROMS by clinicians and patients. Using a mixed-method concurrent design, determinants of implementation were identified through observation of workflow, patient and clinician surveys, and clinician interviews. The Proctor framework of evaluation was used to guide the development of an evaluation plan for the implementation of ePROMs in the integrated chronic pain network. The results were reviewed by a steering committee to iteratively inform the ePROM implementation plan.

**Results:** Both frameworks provided similar results concerning healthcare provider knowledge, behavior and experience interpreting PROM scores. The TDF and CFIR frameworks differed in identifying organizational level determinants. The resultant implementation plan was structured around the adoption of PROMs to inform individual treatment planning and quality improvement. The evaluation plan focused on implementation and impact outcomes to evaluate the ePROM intervention.

**Conclusion:** The TDF and CFIR were used as guiding frameworks to evaluate determinants of implementation of ePROMs in the context of an interdisciplinary team and organizational levels. The barriers and enablers were used to guide the development of a theory-based intervention to implement ePROMs in clinical practice.

**Author Names:** Sara Ahmed, McGill University ; Regina Visca, McGill University; Diana Zidarov, University McGill; Owis Eilayyan, McGill University

# *Prevalence of Pulmonary Hypertension and Outcomes in Patients Undergoing Percutaneous Closure of Atrial Septal Defect: A Systematic Review and Meta-Analysis*

Ms. Selai Akseer, University of Toronto

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Atrial septal defect (ASD) is one of the most common forms of congenital heart disease. If left untreated, significant shunts may increase the risk of developing pulmonary hypertension (PH). PH may adversely affect patient outcomes with or without ASD closure. We aimed to investigate the prevalence of PH and the effect of percutaneous ASD closure on PH and other outcomes.

**Approach:** EMBASE, MEDLINE, and Cochrane databases were systematically searched for published literature from inception to July 2019. Studies reporting PH prevalence or mean systolic pulmonary arterial pressure (sPAP) before and after percutaneous ASD closure in adult population were included. We conducted meta-analyses to obtain summary estimates for PH prevalence and mean sPAP.

**Results:** Fifteen articles with a total of 1,073 patients met the eligibility criteria. The mean follow up time in the studies ranged from 10 to 60 months. Both PH prevalence and mean SPAP levels decreased in all studies after procedure. The pooled PH prevalence decreased from 44% (95% CI 29% to 60%) to 18% (95% CI 8% to 27%). The overall standardized mean difference in sPAP was 1.12 (95%CI 0.81 to 1.44) and 1.62 (95%CI 1.00 to 2.23) in cohort and case series studies respectively indicating a large effect. A high degree of heterogeneity was noted between the studies.

**Conclusion:** This review found that both PH prevalence and mean sPAP decrease post ASD closure. Larger prospective studies with consistent PH definitions and more valid measurement modalities are warranted to confirm these findings.

**Author Names:** Selai Akseer, University of Toronto

## *Factors associated with mental health conditions among children and youth: A retrospective population-based study*

Dr. Maureen Anderson, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Up to 20% of children/youth experience mental health disorders and the majority (~70%) of all mental illness begins in childhood/young adulthood. Only 1 in 11 children/youth with mental illness receive appropriate treatment. Mental health research, in general, has not achieved a level of equity with other health conditions, and, children/youth research occurs less often. We aim to use existing administrative health data to understand factors associated with children/youth mental health conditions in Saskatchewan.

**Approach:** We propose to conduct a retrospective population-based study using existing administrative health data in Saskatchewan. Specifically, our study proposes to use existing adult mental health cohorts (ages 25-35) and retrospectively extract health services data available for their child/youth years (ages 8-18). We aim to understand the relationship between predictor variables available in administrative health databases (demographics, including socio-economic status, health service use, connection to a primary care provider, and access to specialist services) on outcome measures: incidence of intentional self-harm, first psychiatric hospitalization, psychiatric prescription medication adherence and future health care costs.

**Results:** Not yet available – project proposal was successfully supported by the Saskatchewan Centre for Patient-Oriented Research in December 2019; preliminary results are anticipated to be available for the CAHSPR meeting in May 2020.

**Conclusion:** Not yet available.

**Author Names:** Maureen Anderson, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan; Kathy Evans, N/A; Zoe Teed-McKay, Saskatchewan Health Authority; Tracey McCraig-Beattie, Saskatchewan Polytechnic; Sara Dungavell, Saskatchewan Health Authority

*A Randomized Controlled Trial on a Medication Dispensing System to Support Individuals on Multiple Medication*  
Dr. Mubashir Arain, Alberta Health Services

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**Category:** Poster

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Objectives

Medication adherence in older adults is a significant challenge for optimizing health outcomes. The objective of the study was to determine if the new medication dispensing technology increases medication adherence for individuals living at home with chronic conditions.

**Approach:** We are conducting a randomized controlled trial on an in-home medication dispensing technology in Alberta; data collection started in May 2019 and is anticipated to be completed in April 2020. The technology is an integrated medication dispensing system that intends to improve patient adherence to medications and quality of care through real-time pharmacists and caregiver support. Patients taking five or more medications and aged 50+ are eligible to participate in the trial. Those with moderate to severe cognitive impairment are excluded.

**Results:** A total of 47 participants are recruited in the study so far (24 control and 23 intervention). The baseline health status and most of the demographic characteristics (gender distribution, ethnicity, education, employment status and income) were comparable in the two groups (p-value > 0.05); however, mean age of the intervention group was higher (mean=63.95; SD=7.86) compared to the control group (mean=59.40; SD=6.03) (p-value=0.031).

Medication adherence data for the first month was collected from 36 study participants (17 intervention and 19 control). The average medication adherence was significantly higher in the intervention group (98.32%± 2.55) as compared to the control group (91.52%± 9.42) (p-value=0.006). Additional information will be available as the participants will be followed up for the next five months.

**Conclusion:** The preliminary findings from this clinical trial indicate the potential of the medication dispensing technology to improve adherence for individuals taking multiple medication and living with chronic conditions.

**Author Names:** Mubashir Arain, Alberta Health Services; Armghan Ahmad, Alberta Health Services; Venus Chiu, Alberta Health Services; Lorena Kembel, Alberta Health Services

## *Reconceptualizing the Citizen in Long-Term Care Research Using Assemblage Methodology*

Dr. Katie Aubrecht, St. Francis Xavier University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** This paper maps jurisdictional grey zones related to disability and aging programs and services in Nova Scotia, with a focus on residential long-term care (LTC). It outlines the policy contradictions and service gaps that shape the realities of disabled (and) older adults by defining their status and entitlements as citizens.

**Approach:** Deleuze and Guattari's notion of "assemblage" is taken up as a methodological approach that can support intersectional analyses of jurisdictional grey zones.

**Results:** Following Baker and McGurik's (2017) recommendation to operationalize assemblage in critical policy research by "adopting an ethnographic sensibility, tracing sites and situations, and revealing labours of assembling," I collected and considered three interrelated research projects that examine and engage the aging-disability nexus within the context of nursing homes: the first project is theoretical and conceptualized the nexus as it is variously understood in aging studies and disability studies; the second involved ethnographic field research in long-term care homes to map promising relational approaches to quality late life long-term care, and the third used a participatory co-researcher model with disabled activists living in long-term care in Nova Scotia to develop cases of promising approaches in community care and social determinants of health.

**Conclusion:** Thinking with and from the intersections and overlaps of these distinct but interrelated projects, I consider how current policy directions can be read as elevating the status and entitlements of nursing homes over those of the people who live and work there.

**Author Names:** Katie Aubrecht, St. Francis Xavier University



# *The Art of Understanding 'Quality' in Long-Term Care: Creative Approaches to Including the Perspective of People Living with Mental Health Conditions and Dementia*

Dr. Katie Aubrecht, St. Francis Xavier University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In Canada quality in long-term care is increasingly recognized as a national priority. Older people residing in long-term care homes living with mental health conditions and/or dementia are citizens with fundamental human rights. Yet, within existing research their perspectives are marginalized or altogether absent. This constitutes what Leblanc and Kinsella (2016) refer to as a form of “epistemic injustice”.

**Approach:** This presentation shares insights from a collaborative, interdisciplinary project that uses an arts-informed disability studies theoretical perspective and multiple methods (literature review, environmental scan, interviews, creative arts making sessions) to analyze what quality mental health and dementia care means from the perspectives of the people who live in long-term care homes. The overall goal of the project is to contribute new knowledge about what is involved in knowing and practicing quality mental health and dementia care for older people living in long-term care homes from a disability studies perspective.

**Results:** To achieve this goal, the team will address 4 objectives: 1) synthesize promising directions in social and relational approaches in long-term care home staff training and education; 2) contextualize directions; 3) develop a common understanding of how and why they can be perceived as promising, and; 4) share what we learn. In this presentation we focus on learnings related to the first objective—specifically, how and what arts-informed approaches are being described as transforming the meaning and experience of quality in long-term care.

**Conclusion:** We conclude with a reflection on how a disability studies perspective can be used to inform definitions of quality that advance epistemic justice for older people living in residential long-term care.

**Author Names:** Katie Aubrecht, St. Francis Xavier University; Kelly O'Neil, St. Francis Xavier University; Marco Redden, Mount Saint Vincent University; Laura Blinn, St. Francis Xavier University

## *To invest or not to invest: Tracing the decisions that shaped the development of a patient portal - A historical research study*

Ms. Melita Avdagovska, University of Alberta

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Understanding how health organizations decide on information technology (IT) investments is imperative to ensure successful implementation. There is a high rate of failure and a tendency to downplay the complexity of the implementation progression. Alberta Health Services introduced a patient portal. Although the portal allowed patients to view lab results and communicate with their providers, its uptake has varied. The objective was to examine the institutional decision-making processes that shaped the implementation of the portal.

**Approach:** A historical study was conducted based on the 7-step framework developed by Mason et al, where one engages in a rigorous archival critical analysis (including internal and external criticism) of documents and analysis of interviews. We reviewed and analyzed over 423 primary and secondary sources and interviewed ten key decision makers.

**Results:** Although many aspects of what occurred during the pilot are considered common, there are several features with broad implications for delivering patient portals in a large public healthcare system. Supportive leadership, project management, focused scope, appropriate technology and vendor selection, and quick decision-making were some of the facilitators that allowed for the growth of the pilot. The planning and implementation stages did not depend much on the technology itself, but on the various actors who influenced the implementation by exerting power. The main barriers were lack of awareness about technology, lack of proper training, lack of buy-in from diverse system leaders, and lack of central decision-making.

**Conclusion:** Organizational priorities and decision-making tactics influence IT investments, implementation, adoption and outcomes. Future research may focus on improving the applicability of needs assessments and funding decisions to health care scenarios.

**Author Names:** Melita Avdagovska, University of Alberta; Tania Stafinski, Health Technology and Policy Unit; Karin Olson, University of Alberta; Pauline Paul, University of Alberta

## *Cancer support needs among Saskatchewan First Nations and Métis patients: interviews with healthcare providers*

Ms. Andreea Badea, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Cancer

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Despite continuing efforts, First Nations and Métis peoples in Saskatchewan continue to face barriers and challenges in accessing cancer care supports. To capture these challenges, a multi-disciplinary team of researchers, clinicians, policy-makers, and First Nations and Métis patient/family advisors conducted a province-wide needs assessment of cancer related supports for First Nations and Métis patients. The multi-phasic, patient driven study included an environmental scan, key informant interviews, community consultations, and group interviews with service providers.

**Approach:** Twenty service providers (such as nurses, social workers, dieticians, administrators and patient navigators) offered their perceptions on the challenges, barriers and potential solutions to gaps in cancer support for First Nations and Métis cancer patients in a semi-structured group interview. Audio-recorded interviews were conducted at two cancer care sites in Saskatchewan with a full complement of cancer diagnostic and treatment services, and one satellite site located within a tertiary care center providing limited chemotherapy services. Challenges and barriers of cancer support were grouped into four-areas by content analysis of interview transcripts; logistics/communication, socio-economical, psycho-social, and socio-political.

**Results:** Participants identified several challenges and barriers across the four domains, examples including the lack of communication compromising continuity of care in northern/remote areas; patients often dealing with precarious financial circumstances; the often differing value systems of healthcare providers and patients; navigation of a complex, fragmented, multi-jurisdictional healthcare system. When discussing possible solutions, participants readily identified the need for psych-social supports within the system, travel accommodations for First Nations and Métis patients and families from remote areas, more supports in community and translation of written resources into prevalent First Nations and Métis languages. Increasing the opportunities for culturally appropriate training for service providers was also identified as both a challenge and potential solution.

**Conclusion:** The findings from these interviews with service providers offer potential solutions to barriers First Nations and Métis patients experience in the cancer care system. Because these suggestions were offered by service providers, many can be implemented at the service-provider level without requiring system-wide policy changes.

**Author Names:** Andreea Badea, University of Saskatchewan; Tracey Carr, University of Saskatchewan; Gary Groot, University of Saskatchewan; Marissa Alarcon, University of Saskatchewan

## *Measles outbreak response in Alberta and equity: A comparative analysis*

Mr. Thilina Bandara, Urban Public Health Network

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** One key indicator of health inequities in a population is childhood immunization coverage rates. Immunization programs are among the most effective public health measures in reducing the burden of infectious disease and as such, have immediate utility in the evaluation of public health policy and service delivery. This mixed-methods study was conducted to assess the equity-based Measles, Mumps and Rubella immunization coverage rates before, during and after the 2014 Measles outbreak in Alberta.

**Approach:** One-dose MMR by age-two coverage rates were stratified by four socioeconomic neighborhood level indicators: household income, %-Aboriginal, %-Immigrant and %-Homeownership in Edmonton and Calgary between 2009 and 2015. Document analysis was conducted to assess outbreak response initiatives mobilized in Calgary and Edmonton during the study period.

**Results:** Results showed that in 2014, most quintiles showed an increase in coverage rates. In Calgary, however, high income, high %-homeownership, low %-Aboriginal, and low %-Immigrant neighborhoods experienced disproportionately high gains in coverage rates. This disproportional increase did not occur in Edmonton. News organizations reported that Calgary had deployed three drop-in mass immunization clinics, where Edmonton did not. It was also reported that these mass immunization clinics were under-resourced for the level of demand.

**Conclusion:** The mass immunization clinics was a differentiating strategy used in Calgary and not in Edmonton, which suggests that these clinics likely resulted in a overall increased, and the disproportionately higher increase in high socioeconomic status neighborhoods compared to lower socioeconomic status neighborhoods, MMR coverage rates in Calgary compared to Edmonton.

**Author Names:** Thilina Bandara, Urban Public Health Network

## *Anthony's Game: Assessing Health Related Quality of Life Preferences with Age-Appropriate Tools*

Dr. Gillian Bartlett, McGill University Department of Family Medicine

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Shared decision making often omits the perspective of children and adolescents particularly true when assessing health related quality of life (HRQoL) priorities. We have developed a role-playing-game to collect HRQoL preferences associated with treatment decisions in young people. The game is intended to collect information on treatment preferences in situations where patient preferences are difficult to directly assess or may conflict with social norms. The objective was to evaluate the game design.

**Approach:** Using a design sprint methodology, a convenience sample of adolescent participants were informed of the purpose of the role-playing game and played two full versions of the game. After the game play (approximately 2 hours), a 1-hour group discussion captured feedback, the players' experience and reaction to the elements of the game (avatar style, vocabulary, tone of voice, etc) from their individual perspectives. A 4-hour cognitive debriefing session with journey mapping on the second day identified other necessary changes to the game structure. Data was collected through ethnographic participant observation and a qualitative descriptive analysis of the recorded play and

**Results:** 5 female adolescents and young adults participated in the game play during the evening. Three female adolescents plus the two members of the research team participated in the cognitive debriefing and journey mapping on the second day. The ethnographic participant observation identified issues in the ice-breaker activity, character descriptions and treatment wording. Suggestions for improvement included clarifying the wording for the treatment options and minimizing jargon. Observation notes indicated that players were able to take on roles and vary their preferences as the game roles changed. Themes from the qualitative analyses from the game play and journey mapping included: education regarding treatment decisions; increased engagement and empathy; enjoyment and satisfaction derived from 'contributing to a worthy cause' despite the difficult topic of the game.

**Conclusion:** The game has the potential to educate people and health care professionals on adolescent preferences for treatment options and to optimize shared decision-making. The difficulty in understanding treatment options implications for how information is communicated about treatments, particularly those who are treating adolescents and children.

**Author Names:** Gillian Bartlett, McGill University Department of Family Medicine; Richard Fortier, McGill University; Ellie Wakabayashi, McGill University; Cristina Longo, Amsterdam University; Amalia M. Issa, McGill University; Vasiliki Rahimzadeh, Stanford

## *The gridlock in Canadian hospitals: To a better understanding of Alternate Level of Care in Canada*

Dr. Kisalaya Basu, Health Canada

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Alternate Level of Care (ALC) refers to patients who no longer require the intensity of resources provided in hospitals, yet face a delayed discharge due to the lack of long-term or continuing care services. ALC has been estimated to cost the health care system \$1.4 billion annually. The objective of this paper is to obtain a better understanding of ALC patients by examining the relationship between diagnosis and discharge destinations, and deriving the associated costs.

**Approach:** The Discharge Abstract Database (DAD), which contains comprehensive data on hospital discharges, was employed. The DAD contains information on the most responsible diagnosis and the discharge destinations of the patients. Logistic regression models with interaction effects between three discharge destinations (long-term care (LTC) beds, palliative care beds, and home with care services) and diagnosis (based on ICD chapters), were estimated in order to provide insight into the mechanism behind delayed discharges. Econometric models were employed to estimate the costs associated with ALC, according to most responsible diagnosis, sex, and discharge destination.

**Results:** Patients discharged to LTC, or palliative care, beds were much more likely to experience a delayed discharge in comparison to patients requiring home care services. As expected, the results show that diagnoses were linked to discharge destinations. Patients with diagnoses related to mental disorders, circulatory diseases, and injuries were more likely to be designated ALC. Patients who were discharged to a LTC bed had a higher likelihood of an ALC designation when diagnosed with diseases related to nervous system, musculoskeletal system, or congenital malfunctions. Patients who were discharged to a palliative care bed had a higher likelihood of an ALC designation when diagnosed with nervous system diseases, neoplasms, or mental disorders. The cost of an ALC day was estimated to be between \$693 and \$729.

**Conclusion:** Diagnostic categories play a key role in determining post acute care needs, and the ultimate discharge destination. Patients requiring LTC care are more likely to face delayed discharges. A better understanding of the heterogeneity of ALC patients will assist policy-makers in designing appropriate policies to address ALC in Canada.

**Author Names:** Kisalaya Basu, Health Canada; Alan Diener, Health Canada

# *Impacts of the use of digital health technologies on nursing practice: An analysis from the 2014 and 2017 National Survey of Canadian Nurses.*

Mr. Waldo Beausejour, canada health infoway

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Canadian nurses are at the forefront of the provision of patient care. As Canada is moving towards the adoption of digital health, nurses are positioned to be impacted by the implementation of digital technologies in their nursing practice. We sought to understand the trend and use of digital health technologies, especially electronic medical record (EMR) systems by nurses in Canada across clinical practice settings and to uncover its effects on nursing practice and patient care.

**Approach:** We utilized data generated from the 2014 and 2017 National Survey of Canadian Nurses targeting regulated nurses providing direct patient care. Responses were collected from a quantitative online survey. To boost response rate, the survey employed a five-step modified Dillman approach. In total, 1,690 and 2,058 surveys were completed in 2014 and 2017 respectively. Of the total sample, 65% and 67% nurses were in direct patient care respectively in 2014 and 2017. To yield robust estimates and ensure the final samples accurately reflect national distribution of the nursing population, statistical weights were applied to the data using CIHI workforce data.

**Results:** Results from 2014 and 2017 suggested that nurses in Canada providing direct patient care predominantly used combined paper and electronic systems as their primary record system; however, the proportion of nurses exclusively using EMR systems grew 15% over the period 2014-2017. These nurses were more likely to perceive productivity gain since implementing electronic systems than their brethren utilizing combined systems (55% vs. 47%) in 2017. Similarly, nurses exclusively using EMRs were more likely to report improved patient care since implementing electronic systems than nurses relying on hybrid systems (64% vs 54%). In 2014-2017, nurses were only moderately satisfied with the education received to support their use of electronic systems. Over the period, very few nurses felt they were consulted about decisions to implement EMR systems.

**Conclusion:** The proportion of nurses in direct patient care using EMRs increased over time, suggesting that progress has been made to integrate digital solutions in healthcare delivery. Nurses' positive perceptions of the impact of EMRs use on quality of care will help advocate for more integration of technology in nursing practice.

**Author Names:** Waldo Beausejour , canada health infoway; Simon Hagens, Canada Health Infoway; ellie yu, canada health infoway

## *Factors Affecting High Use of the Emergency Department among Ontario Residents*

Dr. Iwona Bielska, McMaster University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Data from southern Ontario indicate that 6% of emergency department (ED) patients are high users ( $\geq 5$  visits per year) and these individuals account for 19% of all ED visits. However, limited research has been done in the province to examine individual-level factors that affect high ED use. Therefore, this study aimed to identify patient characteristics, including sociodemographic characteristics, affecting the odds of being a high user of the ED using national survey data.

**Approach:** A secondary analysis of the cross-sectional 2015-16 Canadian Community Health Survey (CCHS) – Ontario file was undertaken. The study included non-institutionalized adult respondents ( $\geq 18$  years old) with at least one ED visit in the preceding year determined through the question, “In the past 12 months, how many times have you personally used a hospital emergency room?”. ‘High use’ was defined as having had five (5+) or more ED visits per year. Multivariable logistic regression analysis with bootstrap weights was undertaken to examine factors affecting the odds of being a high ED user, including gender, age, socioeconomic status, and self-reported health.

**Results:** The weighted sample included 2.5 million individuals with at least one ED visits in the preceding year, of whom 144,334 (6%) were high ED users. Among the high ED users, 53% were female (95% CI: 51-55%). The majority of the sample was between the ages of 35 and 64 years (48%, 95% CI: 46-49%) and resided in an urban setting (83%, 95% CI: 82-85%). Respondents with poor self-reported health tended to have higher odds of being a high ED user compared to those with good self-reported health (OR=3.44,  $p < 0.05$ ). In terms of protective factors, individuals who were employed (OR=0.60,  $p < 0.05$ ) or had an annual income over \$80,000 (OR=0.57,  $p = 0.02$ ) had lower odds of being a high ED user versus non-employed or lower earning individuals, respectively.

**Conclusion:** This study provides further insight into the individual factors associated with high ED use. Future endeavours should specifically focus on individuals reporting poor health and those who are unemployed or have a poor socioeconomic status to determine how to best address the health needs of this population.

**Author Names:** Iwona Bielska, McMaster University; Jean-Eric Tarride, McMaster University; Kelly Cimek, Hamilton Niagara Haldimand Brant Local Health Integration Network



## *Evolution of health workforce in long-term care (LTC) and adequacy to resident needs*

Mrs. Roxane Borgès Da Silva, Université de Montréal

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** The proportion of seniors is growing steadily in Canada and Quebec. Chronic and neurodegenerative diseases lead to an increasing need for LTC such as nursing care and assistance in facilities. To our knowledge, no recent study had evaluated if the workforce effectively working in LTC meets the needs of residents.

**Objective:** To assess how has health workforce staffing in LTC evolved over the last few years in relation to the needs of residents?

**Approach:** We used administrative data from 2016-2019 from 10 LTC facilities. The number of different types of full-time equivalent health workforce working in LTC was calculated from payroll databases. Residents' needs were assessed using Iso-SMAF Profiles [generated from the Hébert's Functional Autonomy Measurement System (SMAF)]. Each profile is associated with a number of hours of personal and professional care required. To analyse the adequacy between the services offered and required, an estimation of residents' need was calculated using an average hours/day worked divided by the number of hours/day required, as measured using the Iso-SMAF profiles of residents.

**Results:** Attendants are the largest group in terms of hours worked with residents (mean average of 2.1 hours/day/resident), followed by Licensed Practical Nurses (LPN) (0.7 hours/resident) and then nurses (0.5 hours/resident). Overall, Iso-SMAF profile between 11 to 14 (highest need) represented 65% of the residents. Nearly 20% of the residents had impaired mental function. There was a downward trend in the proportion of residents with lighter profiles over time. In 2016, around 66% of all needs were met (response rate). Nursing care needs were on average met more than support and assistance needs (75% and 65% respectively). Staffing shortage was worst among attendants and Licensed Practical Nurses. There was a slight improvement in all rates for the following years.

**Conclusion:** The study revealed a growing imbalance between the needs of people living in LTC and the actual workforce that cares for them in comparison of a similar study done in the 1990s (66% vs 85%). Policy/decision-makers should take these findings into account to better meet the needs of the elderly.

**Author Names:** Roxane Borgès Da Silva, Université de Montréal ; Réjean Hébert, School of Public Health; Régis Blais, Université de Montréal; Sylvie Perreault, Université de Montréal; Élise Chartrand, CIRANO; Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal

## *A prediction model for dental fitness in the Canadian Armed Forces*

Mr. Randall Boyes, Queen's University

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** The mission of the Royal Canadian Dental Corps is to maintain a high state of dental readiness in the Canadian Armed Forces. Dental Fitness Classification is used to assess a member's risk of becoming a dental casualty. This classification is based on perceived 12-month risk of dental emergency; Class 3 indicates high risk (not deployable). We have developed a model that incorporates demographic, medical, and dental history to better predict dental readiness.

**Approach:** The model was developed using data from 2,545 new recruits and a cross-section of 2,312 additional Canadian Armed Forces members who were deployable at baseline dental examination and had at least one year of active service following the exam between 2014 and 2017. An extensive selection of demographic, dental, and social predictor variables were extracted from electronic records. Separate models were developed for the new recruits and the mature cross-section. The models are L1/2 penalized logistic regression models which predict a Class 3 designation within 12 or 18 months. Internal model validation used optimism-corrected bootstrapping.

**Results:** Class 3 was assigned to 5.8% of recruits within 12 months and 11.0% within 18 months. Mature cohort members had event rates of 5.1% and 9.6%. Models were evaluated using the area under the receiver operating curve (AUC) and the f1 score. The recruit models have an AUC of 0.76 and f1 score of 0.25 at 12 months and an AUC of 0.76 and f1 score of 0.36 at 18 months. Our mature models have an AUC of 0.67 and f1 score of 0.20 at 12 months and an AUC of 0.68 and f1 score of 0.28 at 18 months.

**Conclusion:** The final risk prediction models will permit the Royal Canadian Dental Corps to more effectively determine dental visit frequency and target dental resources to Canadian Forces Bases. Future research could externally validate this model and calibrate it for use in other military populations.

**Author Names:** Randall Boyes, Queen's University; Alyson Mahar, Manitoba Centre for Health Policy; Constantine Batsos, Royal Canadian Dental Corps

*The risk of fall-related injuries among nursing home residents co-prescribed cholinesterase inhibitors and beta-blocker medications: a population-based nested case-control study*

Dr. Susan Bronskill, ICES

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Individually, beta-adrenergic blocking agents (beta-blockers) and cholinesterase inhibitors (CHEIs) are commonly prescribed to residents in long-term care (LTC). Concurrent use of CHEIs and beta-blockers can worsen bradycardia and cause syncope, which may increase the risk of falls among vulnerable LTC residents. The objective of this study was to investigate if the co-prescription of CHEIs among LTC residents with dementia receiving beta-blockers was associated with an increased risk for fall-related emergency department and hospital visits.

**Approach:** This population-based, nested case-control study included newly admitted LTC residents with dementia between April 2013 to March 2017 and used linked health administrative and clinical data from Ontario. Residents entered the nest cohort upon their first beta-blocker dispensation following LTC admission. Cases, defined as residents who experienced a fall-related emergency department or hospital visit prior to March 2018, were matched to controls on age ( $\pm 1$  year), sex, entry year, frailty, history of fall-related events, and length of stay in LTC. Conditional logistic regression compared the odds of concomitant CHEI exposure between matched cases and controls.

**Results:** From a cohort of 19,060 newly admitted residents with dementia who were dispensed a beta-blocker, we identified 3,038 matched cases and controls. CHEIs were dispensed in the previous 90 days among 31.2% of cases and 30.9% of controls. The crude odds of CHEI exposure in the previous 90 days was 1% greater (non-significant difference) in the matched cases compared with controls (Odds Ratio [OR] 1.01, 95% Confidence Interval [95%CI] 0.91-1.13). This association remained non-significant following adjustment for resident characteristics (OR 0.96, 95%CI 0.85-1.08), within different patient subgroups (residents with and without a previous fall-related event; frail and not frail residents), and for secondary exposure measures including type of CHEI, new vs. existing use of the medication, and dispensation of CHEIs in the past 30 days.

**Conclusion:** In this study we found no increase in the risk of fall-related emergency department or hospital visits for LTC residents with dementia co-prescribed CHEIs and beta-blockers. Future work should examine whether concurrent use of both medications increases the risk for adverse events that do not require hospital use.

**Author Names:** Susan Bronskill, ICES; Jennifer Watt, University of Toronto; Michael Campitelli, ICES; Colleen Maxwell, University of Waterloo; Jun Guan, Institute for Clinical Evaluative Sciences; Laura MacLagan, ICES; Tara Gomes, St. Michael's Hospital

## *Availability and launch timing of new medicines in Canada*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Many new medicines enter Canadian and international markets each year, offering treatment options to patients, fueling growth in the pharmaceutical market, and putting pressure on drug plan expenditures. With regulatory changes and discussions around national pharmacare front of mind in Canada, access to these new medicines is a topic of importance to patients, researchers, and decision makers across the country.

**Approach:** The analysis will provide insight into the availability, launch sequence, lag time, and sales of new medicines launched in Canada and the 11 Patented Medicine Prices Review Board comparator countries, as well as the US and Switzerland. It will highlight trends in high-cost and specialty market segments such as biologics, orphan medicines, and cancer therapies.

**Results:** Based on five years of data (2014–2018) from the US Food and Drug Administration (FDA), the European Medicines Agency (EMA), Health Canada, and IQVIA's MIDAS® Database, the results present information on the leading international markets for new medicine launches; Canada's international standing for new approvals and their time to first sale; and the average length of time new medicines enter the Canadian market. The results will be used as a benchmark for subsequent studies and will set a foundation to monitor the availability and accessibility of new medicines in Canada over time following the implementation of the PMPRB's new Guidelines.

**Conclusion:** This analysis is designed to inform decision makers, researchers and patients of the evolving market dynamics associated with emerging therapies in the Canadian and international pharmaceutical environment.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Jihong Yang, Patented Medicine Prices Review Board; Jared Berger, Patented Medicine Prices Review Board; Elena Lungu, Patented Medicine Prices Review Board

## *Market size of patented medicines in Canada: from initial uptake to the decade after launch*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** In July 2020, the Canadian federal government will implement significant changes to the Patented Medicines Regulations, marking the largest regulatory reform to the Patented Medicine Prices Review Board (PMPRB) since its creation over 30 years ago. Under the new framework, the PMPRB will have the tools to better protect consumers from excessive prices and make patented medicines more affordable.

**Approach:** Market size is one of the new economics-based factors that the PMPRB will use in its price reviews to ensure prices reflect Canada's willingness and ability-to-pay. This study examines the market size of patented medicines launched over the last 20 years in Canada, measured at select stages throughout their market life, as well as the relationship between treatment cost and sales. The analysis reports on the maximum annual sales in Canada at 3, 5, and 10 years after launch, as well as the total 10-year sales.

**Results:** Various market segments are considered, including lower- and higher-cost medicines, as well as expensive drugs for rare diseases (EDRDs). The findings show that a significant portion of medicines reach \$25M annual sales in their first few years after launch and total sales of \$50M over 10 years. Furthermore, results suggest that EDRDs and other higher-priced medicines are more likely to result in high sales than lower-priced medicines that treat larger patient populations.

**Conclusion:** A greater understanding of the market size for patented medicines in Canada will enable stakeholders to better respond to the evolving cost pressures in the Canadian pharmaceutical market and make policy-informed decisions around pricing and affordability.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Jihong Yang, Patented Medicine Prices Review Board; Elena Lungu, Patented Medicine Prices Review Board

## *Drivers of patented medicine spending in Canada and internationally*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** In July 2020, amendments to the Patented Medicines Regulations will come into force. An assessment of the impact of these changes will rely on an in-depth understanding of the trends in spending prior to the implementation of the new framework.

**Approach:** This presentation discusses these trends at the national level and by payer market, measuring the variation in the demographic, therapeutic profile, and volume of patented medicines, and comparing the levels of spending per capita on patented medicines in Canada to those observed in other countries. The discussion highlights the determinants of per capita spending and quantifies whether Canada's relatively high levels are due to prices, volume, or the types of medicines being used.

**Results:** The results will be based on data from IQVIA's MIDAS® Database, the NPDUI Database at the Canadian Institute for Health Information (CIHI), and private plan data from the IQVIA Private Pay Direct Drug Plan Database. Trends in use and spending will be assessed by age and gender stratifications, and by relevant therapeutic levels. A full cost driver model will be employed to assess the differences in the per capita spending across countries.

**Conclusion:** This analysis will evaluate the factors influencing per capita spending in Canada and elucidate the differences between the Canadian and international pharmaceutical markets. The results will set a foundation to monitor the availability and accessibility of new medicines in Canada over time following the implementation of the PMPRB's new Guidelines.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Caroline Peterson, Patented Medicine Prices Review Board; Neha Pathak, Patented Medicine Prices Review Board; Elena Lungu, Patented Medicine Prices Review Board

## *Two years in: assessing the impact of the 2018 pCPA–CGPA Generics Pricing Initiative*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Canada has one of the strongest generic markets in the industrialized world, though domestic prices have historically been much higher than international levels. Since 2010, generic pricing policies, initially led by individual provinces and later negotiated collectively through the pan-Canadian Pharmaceutical Alliance (pCPA), have greatly reduced the prices of generic medicines in Canada, resulting in substantial cost savings for all Canadians.

**Approach:** In April 2018, a new five-year joint initiative between the pCPA and the Canadian Generic Pharmaceutical Association (CGPA) came into effect, lowering the prices of 67 of the most commonly prescribed generic medicines to as little as 10% of their brand-name equivalents. Building on previous provincial and pCPA policy efforts, which narrowed the gap between foreign and Canadian generic prices, this recent initiative succeeded in bringing median price levels much closer to parity. The greatest change was seen in medicines reduced to 10% of their brand reference price, with median Canadian prices on par with international levels by Q4-2018.

**Results:** This presentation assesses the impact of the pCPA–CGPA initiative one year later, up to the end of 2019, highlighting the effect on overall public and private drug plan spending. It also examines recent trends in international price comparisons to measure the influence of fluctuating prices domestically and in foreign markets. IQVIA MIDAS® data is used to study trends in generic drug utilization and pricing, both within Canada and in comparison to the 11 PMPRB comparator countries and wider OECD. Public plan data is taken from the NPDUIS Database at the Canadian Institute for Health Information (CIHI), and private plan data from the IQVIA Private Pay Direct Drug Plan Database.

**Conclusion:** This analysis will inform decision makers and other stakeholders on the results of continuing efforts to bring Canadian generic prices in line with international levels, and will illuminate discussions on collaboration in Canada's healthcare sector.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Brian O'Shea, Patented Medicine Prices Review Board / Government of Canada; Jeffrey Menzies, Patented Medicine Prices Review Board; Carol Mckinley, PMPRB

## *Oncology drug coverage in Canada, 2019*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Canadian expenditures for oncology medicines reached \$3.3 billion in 2018, following a record annual growth of 23%. Public and private funding options are available for these medicines in most provinces, though the level of coverage may vary across payers. Building on previous analyses, this presentation reports listing rates for public and private payers in Canada and provides a current picture of the alignment of oncology drug coverage across the country.

**Approach:** The analysis examines medicines reviewed through CADTH's Joint Oncology Drug Review (JODR) and pan-Canadian Oncology Drug Review (pCODR) processes from 2007 to 2018 for all submitted indications. Coverage rates are assessed for public plans across all 10 provinces and nationally for private drug plans as of December 2019, using pCODR reviews, public formularies, and INESSS recommendations in conjunction with data from IQVIA's Canadian Drugstore and Hospital Purchases Audit (CDH) and Private Drug Plan databases. Listing rates are provided at the medicinal ingredient level as well as the indication level.

**Results:** Results of this study show that oncology medicines have relatively high listing rates in public formularies at the ingredient level, with some interprovincial variations, though the rates decrease when all approved indications are considered. While British Columbia, Saskatchewan, Ontario, and Manitoba cover more of the select medicines, bilateral comparisons show a notably high average rate of agreement across all provinces. The majority of oncology drugs analyzed were available in the private drug plans.

**Conclusion:** By providing essential information on the coverage and listing alignment for oncology medicines in Canada, this presentation will inform the dialogue on improving the affordability and accessibility of these medicines as well as policy discussions related to the modelling of a national pharmacare program.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Nevzeta Bosnic, PMPRB; Jeffrey Menzies, Patented Medicine Prices Review Board; Yvonne Zhang, Patented Medicine Prices Review Board / Government of Canada



## *Insight into Canada's fast-growing oncology market*

Mx. PMPRB CEPMB, Patented Medicine Prices Review Board

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Steep growth in the sales of oncology medicines in Canada in recent years, alongside rapidly rising treatment costs, have given rise to concerns around affordability and access of these medicines for Canadian patients. Limited available therapeutic alternatives and longer market exclusivity have further exacerbated these cost pressures, as many oncology drugs are targeted, often biologic, therapies facing limited and delayed competition.

**Approach:** Capturing data from IQVIA's MIDAS® Database, along with IQVIA's Canadian Drugstore and Hospital Purchases Audit (CDH) and Private Drug Plan databases, this analysis examines the trends in availability, pricing, treatment costs, and sales of oncology medicines in Canadian and international markets from 2009 to 2018. In addition, results show the distribution of the oncology market by major therapeutic class, as well as the shares of high-cost speciality medicines. International markets examined include the Organisation for Economic Cooperation and Development (OECD), with an emphasis on the seven PMPRB comparator countries (PMPRB7).

**Results:** Over the past decade, national oncology sales have grown at double-digit rates, far outpacing that of the total pharmaceutical market. Treatment costs nearly doubled over the same period, with medicines exceeding \$10,000 per 28-day cycle now representing over \$1 billion in sales. Canada's oncology market growth in 2018 was the highest among the PMPRB7 at over 20%, and the total growth over the decade was second only to the United Kingdom. As oncology treatments make up an increasing share of new and emerging medicines, these mounting cost pressures will likely be a continuing trend.

**Conclusion:** To better understand and document this evolving market, this presentation provides decision makers, researchers, and patients with valuable insight into the market dynamics of oncology medicines in Canada and internationally.

**Author Names:** PMPRB CEPMB, Patented Medicine Prices Review Board; Caroline Peterson, Patented Medicine Prices Review Board; Jeffrey Menzies, Patented Medicine Prices Review Board; Nevzeta Bosnic, PMPRB

## *Transforming continuing care for people with disabilities: A closer look using administrative data*

Dr. Monica Cepoiu-Martin, University of Calgary

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** The transformation of continuing care in Alberta addressed social and health needs of people with disabilities through the development of the supportive living sector, which provides a higher level of privacy and independence than nursing homes, and more health and personal care services than home living. We aim to describe the resident population in each type of setting, compare their health outcomes and discuss policy changes in Alberta's continuing care system considering these results.

**Approach:** Data collected between April 1, 2015 and March 31, 2016 were analyzed descriptively across six levels of continuing care (home living, four types of supportive living and long-term care). Variables included in our analyses were derived from the RAI-Home Care and MDS 2.0 assessments and linked administrative data. Further, we used survival analysis methods to calculate hazard ratios (HR) of emergency department (ED) visits and hospitalizations in home living and supportive living (SL) cohorts in comparison to the long-term care (LTC) cohort. The HRs were adjusted for demographic and health related variables, geographic zone, advanced medical directive and clustering.

**Results:** More clients in the highest DSL level of care and LTC, compared to those residing in other settings, were 65 and older, scored at least 1 on the Activities of Daily Living impairments scale, scored 3 and higher on the Cognitive Performance Scale, suffered from bladder incontinence and showed aggressive behavior. The population with the highest proportion of any advance medical directive (88 %) was residing in LTC facilities. Among the six levels of care, individuals living at home and in privately run SL settings had the highest likelihood of visiting the ED (1.99, 95% CI:1.9-2.09 and 2.08, 95% CI: 1.98-2.19, respectively) or being hospitalized (1.91, 95% CI:1.8-2.02 and 2.03, 95% CI: 1.9-2.17), compared to LTC residents.

**Conclusion:** The goal of the facility based continuing care transformation in Alberta is to answer the social and health needs of an aging population while safeguarding the sustainability of our healthcare system. Healthcare policies adopted in the province aim to achieve the right space mix of facility-based care, while respecting choice.

**Author Names:** Monica Cepoiu-Martin, University of Calgary; Max Jajszczok , Alberta Health Services ; Jeff Poss, University of Waterloo; Jayna Holroyd-Leduc, University of Calgary; Alexei Potapov, University of Alberta; Dave O'Brien, Alberta Health Services

## *Transforming continuing care for people with disabilities: A closer look using administrative data*

Dr. Monica Cepoiu-Martin, University of Calgary

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

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**Conclusion:** The goal of the facility based continuing care transformation in Alberta is to answer the social and health needs of an aging population while safeguarding the sustainability of our healthcare system. Healthcare policies adopted in the province aim to achieve the right space mix of facility-based care, while respecting choice.

**Author Names:** Monica Cepoiu-Martin, University of Calgary; Max Jajszczok , Alberta Health Services ; Jeff Poss, University of Waterloo; Alexei Potapov, University of Alberta; Jayna Holroyd-Leduc, University of Calgary; Dave O'Brien, Alberta Health Services

## *Association of e-visits conducted by pharmacists with patients' care-seeking behaviors*

Mr. Alexandre Chagnon, Ask your Pharmacist

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:** Telehealth platform are increasingly being adopted in Canada to aid patients get the care they need from the comfort of their home.<sup>1</sup> However, there is conflicting evidence on how telehealth offering affects patients care-seeking behavior.<sup>1, 2, 3, 4, 5, 6</sup>

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Telehealth platform are increasingly being adopted in Canada. However, there is conflicting evidence on how telehealth offering affects patients care-seeking behavior. Using data from a free online community pharmacists-led telehealth platform available in Quebec (Canada), we describe the impact of e-visits on care consumption as reported by users. and analyze whether the platform was associated with a divert effect from publicly-funded services to services offered in community pharmacies.

**Approach:** This cross-sectional study used data from patients who used the Ask your Pharmacist platform between July 2018 and December 2019. This platform is a freely available patient-facing website (<https://askyourpharmacist.ca>) used by more than 250 pharmacists in the province of Quebec (Canada). These pharmacists offer a consultation service to better inform the public about the appropriate management of minor ailments and expected impacts of drugs, and also to connect with nearby information-seeking patients. The data included in this study is from surveys completed by patients a few days after the completion of the e-visit with a pharmacist. This cross-sectional study used data from patients who used the Ask your Pharmacist platform between July 2018 and December 2019. This platform is a freely available patient-facing website (<https://askyourpharmacist.ca>) used by more than 250 pharmacists i

**Results:** A total of 2937 automated surveys were sent between January and December 2019. A total of 713 patients (24,2%) answered the survey during this phase. According to data generated during phase 4, we found that about one third (35,1%) of e-visits saves a consultation in publicly-funded services (ED, walk-in clinics, family doctor office, 8-1-1), while these same e-visits increased the number of visits in community pharmacies since about one fifth (18,8%) of e-visits were concluded with a walk-in visit in a pharmacy in the hours that followed the completion of the e-visit. 21,3% of patients would not have met with a healthcare professional if the platform was not available, while 24,1% of patients didn't need to further consult with a healthcare professional.

**Conclusion:** According to our study, a proportion of patients can effectively be divert from publicly-funded services to community pharmacies which offer e-visits. Further research are needed to replicate these results outside Quebec, Canada.

**Author Names:** Alexandre Chagnon, Ask your Pharmacist

## *Unmet Health Care Needs and Quality of Life among Canadians with Neurological Conditions*

Mrs. Tamara Chambers-Richards, Saskatchewan Polytechnic

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Neurological conditions can lead to long term functional impairments and limitations to activity. People with neurological conditions report unmet health care needs and experience barriers to care associated with lowered health-related quality of life. This study has two objectives: (1) explore the factors predicting patient satisfaction with general health care services, hospital and physician services among Canadians with neurological conditions and (2) contrast neurological patient satisfaction between physician care and hospital care.

**Approach:** To assess health services impact on health related-quality of life, the Canadian Community Health Survey - Annual Component, 2010 was used to conduct analyses on a subset of the data, containing a total number of 8848 respondents with neurological conditions, of whom 2902 received health care services, 1222 received hospital services and 2211 received physician services within twelve months leading up to data collection. Multivariate logistic regression was used to estimate odds ratios and their corresponding confidence intervals for the relationship between unmet health care needs and other predictors of satisfaction and patient satisfaction with health care services.

**Results:** Excellent quality care predicts higher odds of patient satisfaction with general health care services, 237.60 (95% CI 70.43-801.52), hospital services, 166.99 (95% CI 67.91-410.64), physician services, 176.45 (95% CI 63.89-487.30). In contrast, self-perceived unmet health care needs negatively predicts patient satisfaction across all health care services: general services, OR=0.59 (95% CI 0.37-0.93), hospital services, OR=0.41 (95% CI 0.21-0.77), and physician services, OR=0.29 (0.13-0.69). Other negative predictors of patient satisfaction include some post-secondary education, OR= 0.36 (95% CI 0.18-0.72), general health services, and OR=0.26 (95% CI 0.09-0.80), physician services; secondary [OR=0.32 (95% CI 0.13-0.76)] and post-secondary graduation [OR= 0.28 (0.11-0.67)], physician services, and being an ER patient most recently, OR=0.39 (95% CI 0.20-0.77), hospital services.

**Conclusion:** Self-perceived unmet health care needs (attributable to availability and quality of care), is a common significant negative predictor of neurological patient satisfaction across health care services. This emphasizes the importance of ensuring coordinated efforts to provide relevant and accessible care of the highest quality for Canadians with neurological conditions.

**Author Names:** Tamara Chambers-Richards, Saskatchewan Polytechnic

*The implementation of youth mental health services within ACCESS Open Minds – Esprits Ouverts: preliminary findings from interviews with stakeholders*

Dr. Kathleen Charlebois, Douglas Hospital Research Institute

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** This presentation focusses on preliminary findings of a study whose aim is to understand the implementation of youth mental health services within ACCESS Open Minds – Esprits Ouverts, a pan-Canadian study seeking service transformation in youth mental health. The aim is to capture how the AOM model, which consists of five major objectives (early identification, rapid access, continuity of care, youth/family engagement and appropriate care) was applied across 14 sites (urban, rural and Indigenous).

**Approach:** This study consists of a single case study around the AOM model. Data collection and analysis are being done concurrently, with around 100-150 interviews being conducted. Various sampling strategies (purposive criterion, snowball and theoretical) are being used to recruit participants (service providers, community members, policymakers and researchers). Using narrative techniques and template analysis, a multi-staged process in which templates are tested by a second coder and then modified at intervals of 30-40 interviews across four sites, has been developed. Thematic saturation will be considered to have been achieved once no new changes are made to the template.

**Results:** To date, fifty-eight interviews have been conducted with various stakeholders. Preliminary findings point to four major potential themes. The first pertained to understandings of appropriate care and perceptions of the AOM model as either flexible or lacking guidance. The second revolved around recognition of the role of AOM clinician and/or of Peer support worker, which proved challenging for some sites but was central to incorporating the AOM model into service provision. Third, already existing community-based practices, namely walk-in services and outreach, were resorted to reconcile institutional/organizational challenges faced in meeting AOM objectives. Such efforts were sometimes coupled with a sense that true service transformation remained elusive. Fourth, efforts towards sustainability gravitated around joining provincial initiatives, expanding the site and/or maintaining practices developed within the site.

**Conclusion:** The implementation of services transformation models in various contexts is influenced by setting-specific challenges. Interestingly, in implementing the same core objectives, sites deployed unique community practices that responded to their community's needs. Our study's insights can significantly inform service and policy endeavours to deploy new service models across diverse contexts.

**Author Names:** Kathleen Charlebois, Douglas Hospital Research Institute; Srividya Iyer, Douglas Hospital Research Institute; Ashok Malla, Douglas Hospital Research Institute

*Integrated health and social care for vulnerable seniors in Camrose, Alberta: A case study on a community-based integrated geriatric care initiative*

Ms. Siu Mee Cheng, Ryerson University

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**Category:** Poster

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Integrated health and social care (IHSC) is the next frontier in addressing care for vulnerable patients using a social determinants of health lens. It can result in positive outcomes for older adults. A study was undertaken on a community-based IHSC initiative, the Geriatric Assessment Program Collaboratory (GAPC) that serves geriatric patients in Camrose, Alberta. The study's purpose was to determine the factors that enable services coordination between health and social services organizations.

**Approach:** A qualitative, exploratory case study was undertaken that involved multiple data collection methods including key informant interviews of representatives from all partnering organizations that represented all organizational levels: executives, management and front-line staff. Using purposive sampling and snowball sampling, a total of eleven individuals, representing seven organizations were recruited for the interviews. Following, a sub-set of the informants participated in a focus group comprised of six individuals representing five organizations. Thematic analysis was undertaken to identify common themes that arose from the interviews and the focus group discussions. Document analysis was also undertaken to aid

**Results:** GAPC was established in 2008, and serves vulnerable older adults living in the community in Camrose and surrounding rural districts. It is comprised of several partnering healthcare and social services organizations including primary care, homecare, seniors mental health outreach, hospitals, homemaking, financial services support organizations and the Alzheimer's society. GAPC provides more holistic care and has enabled geriatric patients to age in place. The study found that there were six inter-organizational factors that supported health and social services integration among the partnering organizations: shared vision and patient goals; communication and information; inter-organizational culture; champions; pre-existing relationships; and leadership. The study also found that external factors influenced integration efforts: an aging population, sense of community, funding resources, government policies and governing authorities.

**Conclusion:** GAPC demonstrates that collaborative efforts can enable vulnerable older adults to age in place and ensures more comprehensive care by addressing unmet needs. Many factors have contributed to the partnership success, but the two most crucial have been the role of champions and the culture of collaboration and reliance.

**Author Names:** Siu Mee Cheng, Ryerson University; Cristina Catallo, Ryerson University

*Integration of health and social services as a means towards addressing health equity for vulnerable older adults:  
perspectives from clients and services providers from Alberta, Ontario and Nova Scotia*

Ms. Siu Mee Cheng, Ryerson University

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**Category:** Poster

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:** Integrated health and social care (IHSC) enables a social determinants of health lens to be applied towards addressing health inequities for vulnerable patient groups, including older adults. IHSC can be defined as healthcare organizations from across th

**Methods:** Qualitative Research Methods

**Background and Objectives:** The panel will present the barriers and challenges associated with four IHSCs in Ontario, Alberta and Nova Scotia, that service vulnerable client/patient population groups (seniors, mental health clients, low socio-economic status clients/patients). The

**Approach:** The multiple case study conducted by Siu Mee Cheng examined three integrated health and social care initiatives in Alberta (collaborative for geriatric patients in Camrose), Ontario (Healthy at Home in Toronto) and Nova Scotia (Middleton Day Program, Anna

**Invited Experts:** The panel is comprised of a diverse group of health and social care professionals and researchers intended to provide different perspectives on IHSC: researcher, service provider, and client/patients. Siu Mee Cheng is a PhD policy studies candidate from

**Author Names:** Siu Mee Cheng, Ryerson University; Christine Sheppard, Sunnybrook Research Institute



**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Learning health system approaches are being used to leverage diverse big healthcare data sources using advanced analytic and visualization methods. Visual analytics (VA) provides insights into large complex data using a combination of advanced analytic and interactive visual presentations. This systematic scoping review presents the state of science on VA tools, techniques and frameworks applied in areas of population health and health services research.

**Approach:** Using Tricco et al's 2018 PRISMA-ScR guidelines, our scoping review focused on peer reviewed sources including journal articles and conference papers published between 2005 and March 2019. Using the Covidence platform, two independent researchers were involved at all stages including title, abstract and full text screening and data abstraction. Another independent researcher served as the arbitrator in case of disagreement during screening, and for validation of abstracted data. A comprehensive abstraction platform was built to capture the data from diverse bodies of literature primarily from computer science and health, while findings were thematized for reporting.

**Results:** After screening 11,310 articles, findings from 55 articles were synthesized under 10 major headings: visual and analytic engines, visual presentation characteristics, tools used and their capabilities, application to the healthcare areas, data types and sources, VA frameworks, frameworks used for VA applications, availability and innovation, and knowledge translation.

**Conclusion:** With the development of learning health system approaches, VA provides a powerful solution to derive meaningful insights from complex health care data for knowledge discovery and hypotheses generation. This is the first review addressing a critical gap in the literature on VA methods in population health and health services research.

**Author Names:** Jawad Chishtie, University of Toronto; Jean-Sebastien Marchand, Université de Sherbrooke; Luke Turcotte, School of Public Health and Health Systems, University of Waterloo; Iwona Bielska, McMaster University; Monica Cepoiu-Martin, University of Calgary; Mike Irvine, British Columbia Centre for Disease Control; Tara Jeji, Ontario Neurotrauma Foundation; Susan Jaglal, University of Toronto

## *Clinical Governance to Enhance User Involvement in Care: A Mixed-Methods Multiple Case Study in Mental Health*

Mme Nathalie Clavel, McGill University

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Individuals with serious mental illness face challenges in managing their care, leading to the need for collaborations between users and providers. One way to enhance users-providers collaborations is to achieve clinical governance; a shared responsibility between managers and providers, supported by healthcare organizations and policies. We applied the concept of clinical governance to understand : how managers and providers can enhance mental health users' involvement; factors facilitating their involvement; users' perceptions of their involvement.

**Approach:** We conducted two, in-depth case studies from two clinical teams offering outpatient care for users with acute mental illness. Both qualitative and quantitative data were collected and analyzed. A total of 25 interviews were carried out with managers, and four focus groups were held with providers. A measure of patient-reported experience was used to evaluate the users' perceptions of their involvement in care decisions.

**Results:** The providers used two main methods to collaborate with users in their care, encouraging users to identify their life goals and supporting them to define their recovery-oriented objectives. To encourage the adoption of collaborative practices, program managers used various practices such as revising care protocols, sharing information with providers on new standards regarding user involvement, and integrating peer-support workers in the team. Accountability within and outside the organizations, development of a culture of user involvement in organizations and health teams, and access to specific training facilitated the adoption of collaborative practices. We found that mental health teams that adopt recovery and collaborative practices with users show a high degree of user-perceived involvement in care decisions.

**Conclusion:** This is the first study to apply the concept of clinical governance to understand how managerial and clinical practices, and other factors, enhance the involvement of mental healthcare users in care. These findings can guide policy-makers, managers, and providers to support the development of user engagement practices in mental health

**Author Names:** Nathalie Clavel, McGill University ; Marie-Pascale Pomey, University of Montreal

## *Better Serving People with an Intellectual Development Disorder and Multiple, Complex Needs - A Synthesis of the Research Literature*

Dr. Shelley Cook, UBC Okanagan, Canadian Institute for Inclusion & Citizenship

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Understanding people's health needs/service requirements is foundational to effectively addressing their needs, particularly for vulnerable populations. A key element of understanding includes identifying barriers and what is working in health/social services for different groups of people.

The aim of this research project is to better understand and address the health needs and service/support requirements for people with an Intellectual Development Disorder (IDD) and a Multiple, Complex Needs (MCN), as designated by Community Living BC.

**Approach:** This presentation showcases the findings from a systematic review of the academic and grey literature examining the health needs and service/support requirements of people with an IDD and an MCN designation through Community Living BC. It is a component of a broader health research project involving this population.

The review uses key terms drawn from the MCN Framework developed by Community Living BC (e.g., dual diagnosis, trauma, homelessness) as inclusion criteria for assessing publications. The focus of the review is broad and includes health and social services databases, disability journals, as well as a comprehensive search of Google/Google Scholar.

**Results:** Owing to the complexity of their health and social needs, research on MCN people is dispersed across the health and social sciences literature. There is a need to bring together disparate sources of information into one review.

This systematic literature review (in progress) summarizes what is known about the health of this population, their social determinants of the health, and existing barriers to health equity. A further objective is to highlight evidenced-based practice. In particular, what is working in terms of effective service delivery mechanisms at points of intersection with the healthcare system.

Preliminary findings indicate that there are several variables, including the number and type of overlapping health/social issues, that distinguish people with multiple, complex needs and an IDD from the general IDD population.

**Conclusion:** This literature review is a foundational component of the broader research initiative examining the overall health of the MCN population. It addresses the need for a more inclusive understanding of current research on the health and health-related services for an extremely vulnerable subset of an already vulnerable population.

**Author Names:** Shelley Cook, UBC Okanagan, Canadian Institute for Inclusion & Citizenship; Rachelle Hole, UBC Okanagan

## *Differences in drug prescribing across demographic and socio-economic groups*

Ms. Diana Craiovan, CIHI

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**Category:** Poster

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Factors such as income, social status, race, gender, education and physical environment play a key role in measuring health inequities. Little is known on the impact of pharmaceuticals on health inequities. This presentation will explore differences in prescribed drug utilization by sex, age, neighbourhood income quintile and urban vs. rural/remote neighbourhoods among people in Canada.

**Approach:** This study uses data from CIHI's National Prescription Drug Utilization Information System (NPDUIS). It contains standardized information on prescribed drug utilization and spending from public drug programs across Canada. Additionally, NPDUIS houses pan-Canadian information related to public program formularies, policies and population statistics.

Results from two CIHI reports (Prescribed Drug Spending in Canada, 2019: A Focus on Public Drug Programs; Drug Use Among Seniors in Canada, 2016) will be presented to highlight differences in spending as well as in the number and types of drugs prescribed by demographic and socio-economic factors.

**Results:** 28% of Canadians received benefits from a public drug program. Females accounted for 55.0% of active beneficiaries and 50.9% of total program spending. Public spending was higher for seniors compared with non-seniors. Seniors used a higher number of drugs as they aged. There were also differences in the types of drugs prescribed between sexes and across age groups.

Public drug program spending per paid claimant was higher among those living in the lowest-income neighbourhoods, compared with those living in the highest-income neighbourhoods. Seniors living in the lowest-income neighbourhoods were prescribed more drugs than seniors living in the highest-income neighbourhoods. There were also differences in the type of drugs prescribed across income quintile, as well as urban and rural/remote neighbourhoods.

**Conclusion:** Drug spending and utilization differ across these demographic and socio-economic groups. These differences are likely due to many factors, including public drug program design and differences in disease prevalence. Though some of these differences are well understood, future work can help better understand what drives differences in drug utilization.

**Author Names:** Diana Craiovan, CIHI

## *Palliative Care in Dutch Green Care Farms and Small-Scale Living Facilities*

Ms. Brittany deGraves, Faculty of Nursing, University of Alberta

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Innovative small-scale care environments such as Green Care Farms are designed to meet the complex needs of residents with dementia and provide homelike environments that promote meaningful activities. To maintain residents' quality of life even in their final days, these facilities need to enact a palliative approach. We aimed to provide an overview of the palliative care reported in international small-scale facilities and gain insight into the provision of end-of-life care in Green Care Farms.

**Approach:** This study was conducted in two parts, first, a scoping review based on end-of-life care services in Green Care Farms and similar small-scale facilities was conducted. Reports were analyzed using thematic analysis based on van der Steen et al.'s (2014) palliative care domains for individuals with dementia which includes domains such as person-centered care, and avoiding burdensome treatment. Part two was a semi-structured interview study conducted at five care farms across the Netherlands in 2019. Six managers and two front-line caregivers were interviewed about the provision of a palliative approach to care at their facilities.

**Results:** Eight papers (from Japan, United States, and Europe) were included in the scoping review. Scoping review results indicate that most facilities focus on maximizing the residents remaining abilities at the end of life, and prioritize person-centered care, resident comfort, and family involvement. Few studies described the process of advance care planning or end of life policies. Preliminary results from the interview study suggest that all Care Farms reported focusing on maximizing patient functioning until end-of-life, and also provided some form of palliative care. Most farms reported observing a much quicker decline in resident functioning than is seen in standard nursing homes, as residents are only bedridden for the last few days or weeks of life. Most farms also promoted family involvement and preventing hospitalization.

**Conclusion:** Green Care Farms focus on minimizing discomfort while respecting family and resident's involvement and end of life wishes. More research is required to determine Advance Care Planning and the policies that are in place at these innovative facilities to further explore the quality of palliative care provided.

**Author Names:** Brittany deGraves, Faculty of Nursing, University of Alberta; Hilde Verbeek, Living Lab in Ageing and Long-Term Care, Department of Health Services Research, Maastricht University; Carole Estabrooks, ; Judith Meijers, Living Lab in Ageing and Long-Term Care, Department of Health Services Research, Maastricht University

## *Inequalities among frequent emergency room visitors for help with mental health and addictions*

Mr. Alexey Dudevich, Canadian Institute for Health Information

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** In 2017, federal, provincial and territorial governments agreed on new investments to improve access to mental health and addictions services as part of Shared Health Priorities. In 2019, the Canadian Institute for Health Information (CIHI) released baseline results for a related indicator - Frequent Emergency Room Visits for Help With Mental Health and/or Addictions – to help measure progress in access to community services over time.

**Approach:** This indicator measures the proportion of frequent visitors (with at least 4 visits a year) among those who visit an emergency room (ER) for help with mental health and/or addictions.

"ER visits" refer to any combination of visits to urgent care centres and hospital emergency departments; this includes visits made by the same person to different hospitals.

"Mental health and addictions" include mood disorders, anxiety disorders, schizophrenia, personality disorders, substance-related and addictive disorders and other behaviour disorders, involving eating or sleep.

**Results:** The highest rates for frequent visits to the ER are for men age 25 to 39. Overall, men are more likely (56%) to have 4 or more visits than women (44%). However, among children and youth (age 10 to 19), frequent visitors are more likely to be female.

Income inequalities are present for both frequent and non-frequent (1-3 visits a year) ER visitors seeking help with mental health and/or addictions. Frequent ER visitors are nearly 4 times more likely to live in lower-income neighbourhoods than in higher-income neighbourhoods. In addition, about 7% of frequent ER visitors for mental health and addictions are homeless.

**Conclusion:** Frequent visits to ERs or urgent care centres may indicate that people are not getting access to the services or support they need in the community for mental health and/or addictions. The existence and magnitude of income-related inequality among frequent ER users may assist policy makers in developing targeted interventions.

**Author Names:** Alexey Dudevich, Canadian Institute for Health Information; Tracy Johnson, ; Geoff Paltser, Canadian Institute for Health Information

## *Acknowledging the ACEs: Exploring Knowledge Translation and Mobilization in Healthcare*

Mr. Kevin Dugas, Dalhousie University School of Social Work

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Despite decades of research indicating links between adverse childhood experiences (ACEs) and negative health outcomes, primary healthcare in Nova Scotia does not have processes in place to regularly screen for ACEs as part of routine medical assessments. Given the paucity of qualitative studies about ACEs, the objective of the current study was to interview healthcare experts about barriers to mobilizing ACEs research and translating this knowledge into policy and routine practice.

**Approach:** This study stems from a pilot survey conducted by Dr. Nancy Ross at Dalhousie University. That study was the first in NS to examine ACEs, health outcomes, and resilience factors in adults attending a primary health care facility. A common concern of participants in that study was that health practitioners ignore/minimize the relevance of trauma to health outcomes and treatment. In our work we interviewed practitioners in Halifax to understand their attitudes about ACEs and explore their perceptions of barriers to translating trauma-informed research into policy and practice. Semi-structured interviews were conducted with 6 primary healthcare practitioners.

**Results:** Interviews were audio-recorded and transcribed verbatim. Transcripts were coded and analyzed for themes using content analysis. Main themes include: lack of training, resources and time in public health; lack of trauma-informed practices in the healthcare system at micro, meso, and macro levels; prevalence of mental health outcomes that seem ignored; need for early intervention/prevention and screening; accessibility, cutbacks, and neo-liberal environment; need for more effective knowledge mobilization and translation. Grounded theory in qualitative research is a means of linking the themes that emerge with the overall narrative. Overall, the themes suggest that areas within NS healthcare, such as one's circle of care practitioners, are currently not set up to provide the necessary supports to individuals and families who have experienced high childhood adversity.

**Conclusion:** This study suggests that systemic barriers are preventing ACE evidence from being integrated into policy and practice. Screening for trauma must become a universal standard, like assessing for hypertension or blood glucose levels. Integration of ACE knowledge into healthcare practice and policy will ensure patients receive care that is trauma-informed.

**Author Names:** Kevin Dugas, Dalhousie University School of Social Work; Adijat Adekunle, Saskatchewan Health Authority - Alvin Buckwold Child Development Program

## *Proximity Management from a Nursing Perspective: A Case Study Protocol*

Ms. Myriam Dumont, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Healthcare organizations experienced numerous reforms in the past decades. These reforms decreased the number of middle management nursing positions. Studies have examined the impact of these changes on nurse job outcomes. These studies provide evidence that reforms are associated with poorer outcomes. To mitigate such negative outcomes, an organizational intervention reintroduced middle managers in several units, in two hospitals in the province of Quebec. We aim to investigate nurses' perspective regarding this organizational intervention.

**Approach:** A contrasted cases study approach will be used. Bedside nurses, sampled from two units, in each of these hospitals, will be interviewed using a semi-structured interview guide based on Meleis's Transition Theory. A maximal variation sampling strategy will be favored to ensure a better representation of nurses. Professionals will be invited to share their perspective related to the intervention. Subsequently, verbatims will be co-coded and analysed. The cases will be contrasted to identify transition patterns.

**Results:** This study will provide nurses' perspective related to the process of transition secondary to an organizational intervention. By exploring the process of transition, it might help investigators or decision makers develop organizational interventions targeted at bedside nurses. It may also help improve the processes of change in healthcare organizations which may favor long term positive nurse job outcomes. These interventions might turn out helpful addressing the nursing shortage issue in healthcare systems. Finally, this research has the potential to guide other healthcare organizations in the province of Quebec through organizational changes and may orient the development of interventions to attract and retain healthcare workers, as well as improve the quality of care.

**Conclusion:** This contrasted case study research will give more information on the context and the implementation of a new proximity leadership and management culture. It is addressing the very serious concern of the nursing shortage and its' impact on quality and safety of care.

**Author Names:** Myriam Dumont, Université de Sherbrooke; Mylaine Breton, Université de Sherbrooke; Christian Rochefort, University of Sherbrooke



*Evaluating the design and implementation of an adapted Plan-Do-Study-Act approach to improve health system performance in a global health context*

Dr. Ejemai Eboime, University of Alberta

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Plan-Do-Study-Act (PDSA) cycles are fundamental to many quality improvement (QI) models. For the approach to be effective in real-world, variants must align with standard elements at the design stage. The design must also be implemented with fidelity. Gaps in adaptation or implementation result in design and implementation failures. Using Taylor's framework, this study evaluates alignment between theory, design and implementation of the DIVA (Diagnose-Intervene-Verify-Adjust) model, a PDSA variant adapted for Nigeria's health system performance improvement

**Approach:** This study interrogates the conceptual underpinnings of DIVA and its implementation in a real-world health system. Data were obtained from content analyses of 39 policy documents, 15 in-depth interviews and embedded process observation between 2012 and 2016. An iterative consensus building approach was used to develop a scorecard evaluating new conceptual indices of design and implementation of QI interventions (design and implementation index, defects and gaps). The scorecard assigned quantitative scores that measured the extent to which the reported/documented design or implementation activity aligned with Taylor's theoretical framework.

**Results:** Design (adaptation) scores were optimal across all standard features indicating that design was well adapted to the typical PDSA. Thus, DIVA can be considered to be a good adaptation of the PDSA model. Conversely, implementation fidelity scores were only optimal with two standard features: prediction-based test of change and the use of data over time. The other features, use of multiple iterative cycles and documentation had implementation gaps of 17% and 50% respectively. Multiple cycles were implemented but not appropriately linked to each other. Further the application of the PDSA methods, including the four stages, were not well documented in the reports. This may imply that observed effectiveness deficits of DIVA may be attributable to implementation rather than design gaps.

**Conclusion:** The effectiveness of QI interventions depends of good contextual adaptation and implementation fidelity such that core features (theory and internal logic) are not compromised. This study also presents an approach for evaluating other QI models which might serve to provide guidance on their appropriate use.

**Author Names:** Ejemai Eboime, University of Alberta; Rohit Ramaswamy, School of Public Health, University of North Carolina

## *Optimizing of nursing roles in Nova Scotia: A Rapid Review*

Dr. Mark Embrett, St. Francis Xavier University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Optimization of nursing roles in collaborative care models is a priority policy issue for the province of Nova Scotia. To inform decision making a two-phase project was designed to help better understand everyday issues and challenges to optimization of roles. The current stage consisted of a 'review of reviews' designed identify facilitators, barriers, strategies, and outcomes of optimizing nurses' role. The intent is to contextualize results for Nova Scotia with a specific focus

**Approach:** We followed a rapid review process to systematically search databases for reviews of studies that focused on optimizing nursing roles in emergency and primary care. Government and related websites were also searched for literature that focused on optimizing nursing roles or provided information on the Nova Scotia context. A combination of key words related to nursing roles, care settings, and role optimization were used to search several online and grey literature databases including Medline, CINAHL, Google Scholar, HealthEvidence, and Cochrane databases.

**Results:** From 2014-2019, 604 articles and reports were identified. Each article was assessed for inclusion through abstract and title screening, followed by full text screening. Screening resulting in inclusion of 25 articles for data extraction. Nine distinct strategies were identified in the literature. Expanding scope of practice (SOP) was found to be successful in improving recruitment, increasing capacity, continual professional development, and clinical governance and support. We found nine different positive outcomes related to increased nursing roles in ED and PC, including: improved quality of care and improved patient satisfaction. Facilitators to optimizing roles included: adequate education, training, and supervision, as well as national and provincial standards for nurse roles. Barriers to optimization included lack of role clarity and scope of practice limitations, which were mentioned

**Conclusion:** Experiences in expanding nursing scope of practice to optimize their role has been widely viewed as a success using several outcomes from the identified reviews. Moving forward, Nova Scotia's strategic directions should account for the various barriers identified in the studies when considering reform of nursing roles.

**Author Names:** Mark Embrett, St. Francis Xavier University; Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority; Ruth Martin-Misener, Dalhousie University; Julia Guk, School of Health Administration Dalhousie University; Britney Benoit, St. Francis Xavier University; Christine Cassidy, IWK Health Centre; Annette Elliott Rose, ; Carla MacDonald, Nova Scotia Health Authority; Cindy MacQuarrie, Nova Scotia Health Authority

**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Despite a dramatic growth in health equity public policy research and demonstrated government interest in promoting equity in health policies, health inequities are actually growing among some populations and there is little evidence supporting how “healthy public policies” are being formulated. This study seeks to examine and understand what occurs after these issues get beyond the governments’ policy agendas and enter the policy formulation stage.

**Approach:** This systematic review pursues three main objectives. First, is to identify barriers to health equity policy formulation issues after reaching the government policy agenda. Second, to evaluate the characteristics of peer-reviewed research articles that utilize common policy analysis theories. And third, to determine the extent to which the health equity literature utilizes common policy analysis theories.

**Results:** Our systematic review is currently being conducted. Initially we identified over 5000 health related articles in the peer-reviewed literature; however, after initial screening very few articles have explicitly used a commonly recognized policy analysis theory to inform their analysis. Our initial findings

reveal that the health equity policy literature appears to be focused on advocacy rather than analysis and that the use of policy analysis theory is extremely limited. Our results also suggest that when such theories are incorporated into an analysis they are often not comprehensively employed.

**Conclusion:** There appears to be a need to gain a greater understanding of the policy process and the value of incorporating policy analysis theories with a research analysis lens to help identify why healthy public policies are typically not being formulated with evidence to support.

**Author Names:** Mark Embrett, St. Francis Xavier University

## *Thinking together: The art and science of remote collaboration while becoming a Community of Fellows*

Dr. Mark Embrett, St. Francis Xavier University

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**Category:** Poster

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** The purpose of our paper is to showcase an example of early cross-provincial and multi-sectoral remote collaboration among postdoctoral fellows in the inaugural cohort of CIHR's Health System Impact Fellowship (HSIF) and map its evolution into a COP. The structure, process, and outcome of the collaboration are described to guide others interested in developing similar partnerships.

**Approach:** Using a developmental reflexive approach, we articulate the phases of one specific project to show the dynamic nature of the HSIF COP. We describe the collective identity that evolves in parallel with the technological how-to that supported this successful initiative by examining the structures, processes, and outcomes of the collaboration. A descriptive analysis of our actions and recommendations are provided to guide others with similar endeavors.

**Results:** Structural components include ways fellows organized themselves, responsibilities and key activities. Processes include the technological tools that nourished the social momentum for collaboration (e.g. using a shared Google document open for communal editing and regular teleconferences). These enabled working groups of HSIF to produce outputs consisting of early studies that described the fellowship experience and investigated the concepts of success in the fellowship. Key social identifiers that describe our community of practice include a i) joint enterprise, the inaugural cohort being embedded into a learning health system setting; ii) shared repertoire, PhD trained academic researchers in a non-academic organization and; iii) mutual engagement, involved in health system activities; iv) sustainability, via opportunities for continued participation after completing the fellowship or changing institutions, or geographies.

**Conclusion:** We conclude by summarizing key insights and strategies from lessons learned related to operating remote, cross-provincial and multi-disciplinary team projects, and our team's reflections on the implications for organizing and implementing effective innovation-oriented COPs.

**Author Names:** Mark Embrett, St. Francis Xavier University; Katie Aubrecht, Nova Scotia Health Authority & Nova Scotia Centre on Aging ; Jonathan Lai, McGill University; Rebecca Liu, Women's College Hospital-Institute for Health Systems Solutions & Virtual Care; Andriy Koval, University of Central Florida

## *Towards Connected Care across a Province: Early Learnings from the implementation of Ontario Health Teams*

Dr. Gayathri Embuldeniya, Institute of Health Policy, Management and Evaluation, University of Toronto

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Ontario Health Teams (OHTs) are being introduced in Ontario as a new way of delivering more coordinated care within communities. OHTs bring together providers across sectors and will be accountable for population health with a defined budget for an attributed geographic population. This presentation focuses on the qualitative component of a multi-method longitudinal study to evaluate OHT development. It seeks to understand what works, for whom, and in what circumstances, both within and across OHTs.

**Approach:** This presentation reports on initial findings from a qualitative case study with 12 OHTs selected from a stratified random sample of 30, based on differences across geography and sector. Five qualitative researchers are conducting one-on-one hour long semi-structured interviews with approximately 10 participants at each OHT between January and March 2020. Participants include leaders and providers from hospitals, primary care, and home and community care, and patient representatives involved in OHT design. Interviews will be recorded, transcribed, and coded using both a structured extraction template and NVivo. Data will be thematically analysed, informed by realist and interpretivist approaches.

**Results:** We expect to generate a description of key objectives, challenges faced and strategies deployed to negotiate them, key successes and what fuelled them, as well as what remains to be done at individual, organizational, and systemic levels to facilitate OHT development. To do so, we will explain how OHTs developed partnerships, a common vision, governance structures, information sharing pathways, and trusting relationships to support the development of their OHT. Results will be analysed both within and across OHTs, in order to produce case-specific vignettes, as well as to trace connective threads and highlight differences across programs.

**Conclusion:** This work will provide an understanding of the key building blocks of early OHT formation in a range of contexts. We anticipate these insights will be helpful to Ontario's Ministry of Health, as well as to current OHTs, and those beginning this journey as the initiative expands across the province.

**Author Names:** Gayathri Embuldeniya, Institute of Health Policy, Management and Evaluation, University of Toronto; Amanda Overall, Leslie Dan Faculty of Pharmacy, University of Toronto; Shannon Sibbald, Western University; Jennifer Gutberg, Institute of Health Policy, Management, and Evaluation, University of Toronto; Nusrat Nessa, University of Toronto; Ruth Hall, ICES; Walter Wodchis, University of Toronto

## *A difference of degree: explaining policy change in public psychotherapy programs*

Ms. Cara Evans, McMaster University

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Australia rolled out publicly-funded psychotherapy in 2006, followed by England in 2008. England's initiative involved more novel programming and more changes to relationships among key actors than in Australia's comparatively simple program. By exploring these differences through the lens of recent public policy theories on the role of ideas in change (Boothe 2015; Tuohy 2018), this paper add to existing comparative analyses of the two programs while also testing and extending current theories.

**Approach:** This paper presents a policy analysis based on analyzing key government and grey literature documents, as well as existing literature. In each country, a key document was identified that signalled a shift from deinstitutionalization-focused policymaking. Subsequent documents relevant to the mental health system as a whole, or to the specific programs under investigation, were also identified. Documents were analyzed deductively, using a "pattern matching" (Yin, 2009) approach to identify confirming and disconfirming evidence of theoretical expectations.

**Results:** Consistent with theoretical expectations, key elements in larger-degree change at the program level included ideas about the problem and its solution that emerged outside of government, but that had links to existing institutions and ideologies. Strong champions for these ideas were also necessary. Smaller-degree change was based on ideas that were already circulating within mental health policy, and was enacted through a more insular and bureaucratic process. Centralized authority appears to be a necessary but insufficient condition for larger-degree programmatic change, but this proposition requires further exploration to fully test.

**Conclusion:** These findings suggest that multiple theoretical insights on ideas and change can be productively synthesized; and suggests avenues for those seeking large-scale change in mental health policy. Findings also have implications for current efforts of Canadian provinces to develop public psychotherapy programs.

**Author Names:** Cara Evans, McMaster University

## *The emergence of a recovery frame in Canadian mental health policy*

Ms. Cara Evans, McMaster University

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** While the concept of recovery in mental health dates back at least to the 1980s, it did not appear as a guiding framework in Canadian mental health policy until the 2006 national report, *Out of the Shadows at Last*. Since then, recovery has been a key principle in national and provincial mental health strategies. This paper explores how and why recovery entered Canadian policy discourse at the time that it did.

**Approach:** This paper presents a policy analysis based on publicly available policy documents and scholarly literature, and drawing on theoretical work on ideationally-driven change and policy learning. The content and development of *Out of the Shadows* is compared to the mental health section of the Romanow report four years earlier. Both reports are national in scope and were developed through public and expert consultation, and both call for substantial change to the mental health care system. This comparison of similar cases allows for the highlighting of crucial differences that contributed to the development of a new policy frame.

**Results:** I argue that recovery emerged as a policy frame in Canada in *Out of the Shadows at Last*, but not the Romanow report, for two key reasons. First, the wide-ranging scope of the report revealed tensions across different policy domains in need of resolution. The Romanow report took a narrower approach to mental health that obscured these contradictions. Second, in the years between the two reports a number of English-speaking countries adopted recovery-oriented policies. *Out of the Shadows'* authors engaged in bureaucratic socialization through direct interaction with international colleagues. Interest groups do not appear to have pushed for a recovery framing in the *Out of the Shadows* consultation process, despite attribution of the concept to interest groups in the final report.

**Conclusion:** Siloed mental health policymaking may continue to obscure tensions; recent cross-sectoral initiatives in several provinces hold promise in this regard. The decision to attribute a recovery framing chiefly to consumer groups and not to an international norm suggests that sources of ideas in mental health policy are framed strategically.

**Author Names:** Cara Evans, McMaster University

## *Persistent but narrowing dental care inequalities in Canada from 2001 to 2016*

Ms. Julie Farmer, University of Toronto

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Inequality in dental care use is long-standing in Canada and it remains unclear whether this inequality is improving or worsening. This study reports on: (i) income-related inequality in dental visits in Canada and across its provinces over time; and (ii) inter-provincial inequality in dental visits between Canadian provinces.

**Approach:** Seven nationally representative health surveys of the Canadian population were used, which collected data between 2001 and 2016. The magnitude of income-related inequality was measured using the Slope Index of Inequality (SII) and Relative Index of Inequality (RII). Inter-provincial inequality was examined using a number of indices, including Theil index.

**Results:** Income-related inequality in dental visits was present in all survey years, with those in higher income groups reporting higher dental visit prevalence rates. However, the SII and RII demonstrated a steady decline, meaning there was a decrease in the magnitude of inequality over time. Absolute and relative inequality reduced by 7.2% and 22.9% between 2000 and 2016, respectively. A similar decline was observed across most Canadian provinces. Inter-provincial differences in dental visits also decreased over time.

**Conclusion:** There appears to be persistent but narrowing income-related inequality in dental visits in Canada and across its provinces over time. Also, it appears that Canadian provinces are becoming more equal in terms of dental services use.

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*Utility of quality statements for the emergency department (ED) management of patients with hip fractures: Retrospective analysis of administrative data*

Mrs. Sarah Filiatreault, University of Manitoba

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Hip fractures are one of the most serious injuries experienced by older adults and evidence indicates that optimal pre-operative care can improve outcomes. Because most people with these injuries present to the ED and spend a large portion of the pre-operative period in this setting, it is important to develop ED specific quality statements that depict best practice as a first step in improving healthcare delivery and outcomes for this patient population.

**Approach:** This study was conducted to examine the potential utility of five quality statements derived following a review of current evidence. A retrospective analysis of administrative data from one tertiary care facility in Atlantic Canada for the fiscal year of 2016-2017 was conducted to determine the proportion of cases attaining the quality statements individually and as a set. Multiple logistic regressions were conducted to examine if those who were younger (< 81 years), male, assigned a more acute triage score, and arrived on a weekday-day shift were more likely to attain the quality statements (i.e., test directional hypotheses).

**Results:** Data for 191 patients were analysed. The median age was 81 years and 75.4% of patients were female. Half of patients spent over 7.5 hours in the ED (length of stay ranged from 0.8 to 29.9 hours). Almost one-third of patients were triaged as 'less or non-urgent'. Considerable variability was evident in the rate of attainment for the quality statements. Examined covariates improved ability to predict attainment for 2 quality statements. Findings suggest those triaged as more acute were more likely to have an initial pain assessment recorded within 30 minutes of arrival (OR 2.68; 95% CI 1.38 to 5.20;  $p = .002$ ) and to receive analgesia within 60 minutes of arrival (OR 4.69; 95% CI 1.87 to 11.77;  $p < .001$ ).

**Conclusion:** This investigation is unique because it focuses on quality statements that are specific to the ED. The availability of such statements facilitates efforts to demonstrate how the care received by patients in the ED impacts short and long-term outcomes.

**Author Names:** Sarah Filiatreault, University of Manitoba; Marilyn Hodgins, University of New Brunswick; Rose McCloskey, University of New Brunswick; Nicole Moore, Dr. Everett Chalmers Regional Hospital

*The Problem with "Vulnerability" in Palliative Care*  
Dr. Brenda Gamble, University of Ontario Institute of Technology

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Ontario's health care system is transforming. In 2019, the People's Health Care Act was established and dismantled 14 Local Health Integration Networks (LHINs) originally created to coordinate and integrate services at a local level--including palliative care. This presentation analyzes the impact of these changes on access to palliative care in one former LHIN and ascertains how these changes have affected patients, family members and providers by looking at how new policies are implemented.

**Approach:** Data for this presentation was collected from documents and interviews with patients and providers, and was analyzed within a health geography framework (location, space, human interaction, movement and region) with a focus on equity. An analysis within a health geography perspective often uncovers the structural inequities of many health policy issues as it considers not only the location of services, but also the appropriateness of where care is delivered (i.e. the space), the level of collaboration between providers and sectors, and the prioritization of services within regions--all issues that can impede real transformational change.

**Results:** By using an equity lens, this paper unpacks and examines the often inequitable relationships of power inherent in decision making processes. For example, those needing palliative care are often labelled as a "vulnerable group". However, what do we mean by the term "vulnerable"? The term "vulnerable group" is often ill defined and thus, presents a significant barrier to those looking to implement change. By using the term "vulnerable group" as a blanket term to describe all palliative patients, policymakers erase and ignore the specific cultural, economic, and social needs of individual patients. Uncovering these inequities and erasures is the first step in designing and implementing policy around this issue that is truly transformational.

**Conclusion:** The first step to implementing policy is to think carefully about what barriers (or facilitators) may exist and affect how policy disseminated. In terms of palliative care in Ontario, this means re-thinking what the term "vulnerable group" means and how this impacts the delivery of care in this

**Author Names:** Brenda Gamble, University of Ontario Institute of Technology; Kathleen Gamble, Unity Health (St. Michael's Hospital)

## *Clinical guidelines impact on the healthcare performance : case study*

Mr. Nizar Ghali, Quebec Health Ministry

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** In Quebec, colonoscopies volumes have continued to rise in recent years in the absence of monitoring mechanism for the appropriateness and the quality of these exams. In 2010, November, Quebec Government introduced the colorectal cancer screening program, based on clinical protocols, in the objective to control for volume and cost imperfection. One year later, Gouvernement add financial incentives for participant institutions. We want to assess for the causal effect of this program of outcomes indicators.

**Approach:** We have data on admissions episodes and deaths for 8 years. We use multistate model analog to difference in difference approach to estimate reform effect on the transition probability between different states for each patient. We estimate the causal effect of two factors (clinical protocols and additional financial incentives) on many outcomes indicators in relation with populational health and healthcare quality.

**Results:** Our results shows that the reform reduced length of stay without deterioration in hospital mortality or readmission rate. The program also contributed to decrease the hospitalization rate and a less invasif treatment approach for colorectal surgeries. This is a sign of healthcare quality and population health improvement. We demonstrate in this analysis that physicians behaviour can be affected by both clinical standards and financial incentives even if offered to facilities.

**Conclusion:** Our study has some limitations. First the short time sample after the implementation of program (three years) is not suitable for studies dealing with survival or death rates at 5 or 10 years. Or such indicators are relevant for analyzing the impact of the program.

**Author Names:** Nizar Ghali, Quebec Health Ministry

**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** French

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Avec le vieillissement de la population et l'augmentation des maladies chroniques, des millions de personnes présentent des besoins complexes en soins et services sociaux, avec d'importants défis pour les patients/proches, les prestataires, l'organisation des services et le système. L'objectif est de clarifier la « complexité des besoins » et de retenir des composantes permettant d'identifier ces personnes, de soutenir les pratiques, la planification et le développement d'interventions ciblant l'amélioration de la qualité de leurs soins.

**Approach:** Nous avons mené une revue rapide de la littérature scientifique et grise, selon les normes de l'INESSS des revues rapides, et une consultation d'experts (en multimorbidité, première ligne, épidémiologie, psychiatrie, gériatrie, vieillissement, organisation des services et transition des soins). Nous avons interrogé les bases MEDLINE et moteurs de recherche Google et Google Scholar, sur les concepts complexité des besoins/besoins complexes et concepts connexes, et nous avons retenu les études en anglais et en français, s'intéressant à la définition conceptuelle/opérationnelle de la complexité, aux dimensions et modèles théoriques de la complexité ou 3) les approches de segmentation proposées pour ces personnes

**Results:** La complexité des besoins est intrinsèquement difficile à définir et plusieurs termes ont été utilisés, parfois spécifiquement, et souvent de façon interchangeable. Cette notion a aussi été conceptualisée différemment, souvent au-delà de la description des seules caractéristiques des personnes. Cependant, il existe une distinction fondamentale entre «complexité bio-psychosociale du cas» et «complexité de la prestation des soins», étroitement liée à «la complexité du système de santé». Ainsi, l'approche de caractérisation de ces personnes uniquement par leur utilisation des services présente plusieurs limites. Aussi, nous avons repérée les modèles conceptuels de complexité existant et ses composantes essentielles permettant de caractériser ces personnes et convenir à d'éventuels segments utiles pour l'intervention. Les experts consultés ont identifié six principaux thèmes en lien avec la complexité des besoins

**Conclusion:** Nous conceptualisons la complexité en tant qu'une rupture d'équilibre entre besoins grandissants des personnes et capacité/réactivité du système de répondre de façon efficace, intégrée et adaptée. La segmentation de cette population en sous-groupes homogènes représenterait un outil prometteur pour cibler les soins/services efficaces, informer les interventions et modèles adaptés

**Author Names:** El Kebir Ghandour, Institut national d'excellence en santé et en services sociaux (INESSS); Denis Roy, Canadian Association for Health Services and Policy Research; Patrick Archambault, CISSS Chaudière-Appalaches (Secteur Alphonse-Desjardins) Université Laval; Michèle Archambault, Institut national d'excellence en santé et en services sociaux (INESSS) ; Marie-Hélène Raymond, Institut national d'excellence en santé et en services sociaux (INESSS)

*Preliminary Findings from a Stakeholder Dialogue on Digital Health and Equity*  
Ms. Dara Gordon, Women's College Hospital Institute for Health System Solutions and Virtual Care

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** While digital health tools continue to proliferate globally based on their potential to profoundly improve the delivery and coordination of healthcare services, in some cases these technologies can unintentionally exacerbate health inequities for communities already underserved by the healthcare system. The solution to this challenge involves identifying meaningful ways to ensure that technology helps reduce social and health inequities. We present key points for consideration for policymakers, healthcare providers, organizations, and the health technology industry.

**Approach:** We hosted a one-day symposium on Digital Health and Equity in September 2019 on how digital health technologies can better serve all communities. Fifty-seven participants (researchers, clinicians, administrators, policymakers, technology vendors and community members) were present. Structured panels featured themes identified by community members with diverse lived experiences, initiatives in Ontario regarding digital health and equity, and digital health and Indigenous health. Breakout sessions highlighted: community engagement for digital innovation, digital health and equity considerations for Ontario Health Teams, and considerations for vendors. Observational notes (Hammersley and Atkinson, 2007) were collected and analyzed to identify the four themes below.

**Results:** These themes represent the key opportunities and barriers to developing digital health solutions which improve health equity:

1. Technology is becoming more pervasive, but not all communities have equal access to digital devices.
2. More inclusive design of digital technologies requires meaningful relationships with community members; these relationships take time and effort to develop and maintain.
3. The fundamentals of a digitized health system need attention before digital health can meet its potential.
4. Not all problems are best solved by technology; continued investment in developing health systems is still needed.

Action items were identified for municipal and provincial governments, healthcare providers and organizations, and industry regarding investing in collaborations that address the digital divide, providing digital literacy opportunities and designing community-specific tools through meaningful engagement.

**Conclusion:** Despite organizational and policy barriers, symposium discussions revealed that participants acknowledged the importance of incorporating health equity into digital health initiatives, signaling a strong current of support for developing digital health tools which promote health equity.

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# *Barriers and Enablers to Implementing Interprofessional Collaborative Family Practice Teams with a Focus on Improving Access to Primary Care: A Review of the Literature*

Dr. Amy Grant, Maritime SPOR Support Unit

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Beginning in 2000, the support and development of interprofessional collaborative practice teams began in four pilot sites to improve primary healthcare access, attachment, and quality of care. Recently, more broad structural support has taken place to further develop these collaborative practice teams via targeted funding. As the number of teams continues to grow, our research team identified the need to examine barriers and enablers to team implementation to continue improving this process.

**Approach:** To identify, categorize, and describe barriers and enablers to interprofessional collaborative care team implementation reported in the literature, especially those that focus on barriers and enablers to improving access. Access was defined by attachment of patients to a collaborative family practice team in primary health care. Given the breadth of literature on this topic, we conducted a review consisting primarily of systematic reviews and evidence syntheses. Of the 193 articles identified, data were extracted from 13 articles. The Consolidated Framework for Implementation Research (CFIR) informed categorization of the barriers and enablers into five broad domains.

**Results:** CFIR domain categorization follows. Inner Setting domain themes included governance structures, informal communication, power, and training. Outer Setting domain themes included professional remuneration, regulatory policy, and interprofessional education. Few articles identified barriers and enablers in Intervention Characteristics, Characteristics of Individuals, and Process domains. Key messages for three stakeholder groups were identified. Government/Health Authorities: design and implement funding models that link compensation to indicators of collaboration and team functioning for all team members and ensure physical space allows for colocation of teams. Team-level Clinicians/Managers: effective governance and leadership requires deliberate attention and technological tools are key to collaborative decision-making. Health professional educators/regulators: ensure policies enable each provider to practice to full scope and promote development of non-hierarchical collaborative professional relationships.

**Conclusion:** The key messages from this literature synthesis provide valuable insight into the barriers and enablers that affect the implementation of interprofessional collaborative family practice teams. A clearer understanding of the local context as it relates to the findings from this review is now required.

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# *Facilitators and Barriers to Clinical Pathway Uptake and Utilization among Primary Care Providers in Saskatchewan – A Qualitative Study*

Dr. Gary Groot, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Clinical Pathways (CPWs) are multidisciplinary, evidence based, complex interventions designed to standardize patient care. In Saskatchewan (SK), development, implementation, and evaluation of seven provincial CPWs (Hip & Knee, Spine, Pelvic Floor, Prostate Assessment, Fertility Care, Lower Extremity Wound Care, and Acute Stroke) present significant challenges, leading to lower uptake and utilization. This study is aimed to identify facilitators and barriers to CPW uptake and utilization by Family Physicians (FPs) in SK.

**Approach:** Our approach to identifying the facilitators and barriers to CPWs was to use qualitative methods, consisting of: eight one-on-one key informant (KI) interviews and five focus groups (FG). KIs had been involved in the design and implementation of CPWs. FGs were held with 30 Family Physicians in two urban and two rural SK cities. All interviews were audio recorded and transcribed. Inductive, thematic analysis was used to identify facilitators and barriers to CPW uptake and utilization by FPs, which were then structured based on Theoretical Domains Framework (TDF) for behavioral change.

**Results:** KI interviews informed the FG interview guide. From 5 FG discussions, 51 themes emerged and were mapped under 14 TDF domains. While FPs alluded to several reasons for utilizing CPWs, notably they emphasized the barriers. Major barriers were: system-level (knowledge & communication, social/professional identity, FP engagement and education); objective clarification (goals, belief about consequences of implementing CPW) and technical and resource related (administrative, access to local specialists, enforcement and incentives). Most prominent barrier, was lack of systematic CPW promotion and inconsistencies in communication - organization to practitioner, organization to organization and practitioner to practitioner setting. Facilitators were recognized to mitigate barriers, and ranged from need for better IT services (i.e. Electronic Medical Record (EMR)), to optimism towards CPW usage and patient outcomes.

**Conclusion:** Ample evidence suggest CPWs are effective in optimizing patient care. Based on perceived facilitators and barriers, preliminary recommendations will be introduced to enhance uptake among FPs. These initial findings will inform the creation of an innovative theory-based province wide survey instrument to further evaluate CPWs.

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## *Improving Equity of Access Through Electronic Consultation: A Case Study of an eConsult Service*

Ms. Sheena Guglani, Bruyere Research Institute/eConsult Centre of Excellence

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Patients with complex circumstances pertaining to geography,

socioeconomic status, or functional health often face inequities in accessing care. Electronic consultation (eConsult) is a secure online application that allows primary care providers (PCPs) and specialists to communicate regarding a patient's care. eConsult has demonstrated an ability to improve access to specialist care, and may be of particular use in cases of inequitable access.

**Approach:** We conducted a multiple case study of eConsults from seven patient groups: addiction, frail elderly, homeless, long-termcare, rural, special needs, and transgender. Cases from these groups were selected from all eConsult cases completed in 2017 using a data collection strategy tailored to each group. An access framework by Levesque et al. was applied to the data to examine five dimensions of access, arranged in chronological order, that reflect the process of a patient seeking care: approachability, acceptability; availability, affordability, and appropriateness. Two reviewers analyzed the cases using an iterative approach, regularly presenting findings to the research team for discussion and

**Results:** Eight hundred and twenty-five cases emerged across the seven target groups. The selected cases highlighted a number of key factors, including the value of the patient-PCP relationship, the importance of considering patient perspectives when providing care, and efforts to accommodate patients facing particular challenges to accessing care. Examples emerged among all five dimensions of the Levesque et al. access framework, with the final dimension, appropriateness, emerging across all cases.

**Conclusion:** By leveraging the eConsult platform, PCPs can help improve equitable access to specialist care. More research is needed to understand why patients with complex circumstances face a longer wait time compared to the general population, and the impact that eConsults can have in improving health outcomes and wait times for this population

**Author Names:** Sheena Guglani, Bruyere Research Institute/eConsult Centre of Excellence; Clare Liddy, Bruyère Research Institute; Erin Keely, ; Amir Afkham, Champlain LHIN; Justin Joschko,



## *Exploring Middle Management's Role in Improving Patient Safety Culture: A Multiple Case Study*

Ms. Jennifer Gutberg, Institute of Health Policy, Management, and Evaluation, University of Toronto

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** This research explores middle managers' role in patient safety culture (PSC) change, by examining the leadership processes middle managers adopt in implementing PSC strategies. PSC's impact on hospitals' performance is well documented, however gaps remain in sustaining these cultures. Given that PSC change relies on efforts from the entire organization, leadership focusing on individuals outside of senior management may be a promising avenue to consider.

**Approach:** This study applies an exploratory, qualitative approach, via an embedded multiple case study. We examine two hospitals and two embedded units within each hospital, one "high performing" and one "low performing". A maximum variation sampling approach was used in selecting both the cases and embedded units, with particular emphasis on variation in performance, strategic approach to patient safety, and unit leader/leadership characteristics. Data collection involves semi-structured interviews with unit managers, frontline providers, and hospital senior management team; unit observation of safety behaviours (safety huddles, hand-offs, etc.); and document collection and analysis.

**Results:** Data collection is ongoing, and analysis will be completed and available by the conference. However, preliminary results through key informant interviews suggest that there is an important, but perhaps untapped, role for middle managers in the strategic implementation of PSC. We expect to identify the barriers and facilitators managers face in trying to improve patient safety culture. Moreover, we expect to uncover the approaches managers adopt in working around these barriers, and understand the individual factors (leadership traits and behaviours) that explain why some managers are able to succeed in bringing about PSC improvement, while others struggle to do the same.

**Conclusion:** Safe care remains an elusive goal for organizations. The challenges involved in changing culture and PSC in particular are well documented in the literature. This project proposes that middle managers may uniquely influence their environments towards meaningful culture change, and that their influence, given the right context, might extend beyond

**Author Names:** Jennifer Gutberg, Institute of Health Policy, Management, and Evaluation, University of Toronto; Ross Baker, University of Toronto

## *What can the Commonwealth Fund International Survey of Primary Care Physicians tell us about Canadian Progress toward Virtual Care?*

Mr. Simon Hagens, Canada Health Infoway

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Canada has been a leader in many aspects of virtual care, including Telemedicine, Telehomecare and Teleradiology. While this represents growth in access to care for many Canadians, there has been less progress in providing virtual options for day-to-day primary care. Email is the form of virtual communication with physicians desired by most Canadians. Analysis of Canadian and International progress between 2012 and 2019 can help inform progress for this service.

**Approach:** The Commonwealth Fund 2019 survey polled primary care doctors in 11 countries on topics such as access to care, coordination of patient care, and use of information technology. More than 2,500 Canadian primary care physicians responded to the survey. For comparison, the 2012 and 2015 iterations were also reviewed. The analysis looked at growth across countries, as well as across provinces in Canada, and considered factors that could have influenced the identified patterns. It also looked at characteristics of physicians in Canada who report offering virtual care through email.

**Results:** In 2019, 23% of primary care physicians reported offering email communication as an option for patients. This represented steady but modest growth, with 11% reporting offering email in 2012 and 15% in 2015. Physicians offering email are more likely to work in practices with 3 or more physicians, use an EMR and work in urban or sub-urban settings. Within Canada, Ontario has the highest rate, followed by British Columbia and Nova Scotia. International comparisons in the 2019 Commonwealth Fund survey demonstrate that Canada is behind, with 60% or more of physicians reporting offering email to their patients in 8 of the 11 participating countries. Longitudinal trends internationally show more rapid growth than Canada since 2012.

**Conclusion:** While Canada was a pioneer in some areas of virtual care, we are behind in offering these services broadly to Canadians while they have become commonplace in many other countries. These comparisons can help motivate both clinicians and policymakers to facilitate the provision of email and other virtual care.

**Author Names:** Simon Hagens, Canada Health Infoway; ellie yu, canada health infoway; Waldo Beausejour, canada health infoway

## *Ontario Health Teams, Ontario's version of Integrated Care: What do these early teams look like?*

Dr. Ruth Hall, ICES

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** In April 2019, the Government of Ontario passed the People's Health Care Act, introducing Integrated Care Delivery Systems in the form of Ontario Health Teams (OHTs). OHTs are expected to bring together health care providers to design a system to meet the needs of populations. Our objective is to assess the extent of collaboration, communication, trust, teamwork, a common vision and readiness for change within and across 30 OHT applicant teams.

**Approach:** Using the Context and Capabilities for Integrated Care (CCIC) framework we developed a 45-item leadership survey to measure collaboration, trust, communication, teamwork, common vision and readiness for organizational change within and across OHTs. We reduced the ~100-item CCIC leadership survey to 45-items ensuring the original factors were retained and then pre-tested it with two individuals involved in OHT applications who were not signatories. The online survey was distributed to representatives from the signatory organizations on each of the 30 OHT applications. Across OHTs, the number of signatory organizations ranged from 6 to 142.

**Results:** As of January 16th, our response rate was >40%. The survey will close on January 31st, 2020. In this presentation, we will describe the level and variation in leadership, collaboration, communication, partnership, trust, shared common vision and readiness for organizational change within and across the OHTs as measured by the survey. We will characterize OHTs based on the relative strengths on multiple attributes. We will report on associations between these factors and OHT characteristics such as geography and number and types of partner organizations. Individual OHT average scores and the variation in scores will be compared to the overall OHT population average score and variation.

**Conclusion:** This study will provide an early indication of OHTs strengths, and where they will require support in order to be successful in implementing integrated care to meet their population's health needs.

**Author Names:** Ruth Hall, ICES; Kevin Walker, HSPRN; Walter Wodchis, University of Toronto; Gayathri Embuldeniya, Institute of Health Policy, Management and Evaluation, University of Toronto; Nusrat Nessa, University of Toronto; Jennifer Gutberg, Institute of Health Policy, Management, and Evaluation, University of Toronto; Amanda Everall, Leslie Dan Faculty of Pharmacy, University of Toronto; Shannon Sibbald, Western University

## *Eliminating barriers for nurse practitioners*

Ms. Aden Hamza, Canadian Nurses Association

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Accessing primary care is challenging for many communities, and nurse practitioners (NPs) are well suited to address this. NPs provide essential care to nearly three million people in Canada. However, most Canadian private insurance plans only reimburse clients for physician-issued prescriptions for medically necessary devices, supplies, and treatments performed by other health professionals. Insurance plan members with an NP as their primary care provider should not be subject to reduced access to health insurance coverage.

**Approach:** The Canadian Nurses Association (CNA) and the Nurse Practitioner Association of Canada (NPAC) have launched a national campaign calling on all health insurance companies who provide private health insurance plans in Canada to amend their policies and language to reflect the scope of practice of NPs. By targeting insurance companies directly, this campaign invites the public and nurses to hold them accountable and remove barriers to accessing primary care.

**Results:** The campaign serves as a novel mechanism to initiate change whereby health insurance companies are urged to review and amend their private insurance policies in order to recognize the full scope of NPs as prescribers. By doing so they would be in line with existing provincial and territorial NP legislation and helping to reduce delays in patient treatment. The goal being to ensure equitable access to care for all people in Canada, and that NPs are able to work to their full scope of practice to address the needs of the population.

**Conclusion:** NPs improve access to care, particularly in rural and remote communities, and are at the forefront of developing innovative health solutions. Insurance companies should do their part to provide relief to our already clogged health-care system by amending their policies and language to reflect the NPs' scope of practice.

**Author Names:** Aden Hamza, Canadian Nurses Association; Sarah Nolan, Canadian Nurses Association; Karey Shuhendler, Canadian Nurses Association ; Stan Marchuk, Nurses Practitioner Association of Canada; Lenora Brace, Nurse Practitioner Association of Canada

## *Environmental Scan of Privately Funded Primary Care in Canada*

Dr. Lindsay Hedden, Simon Fraser University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Privatization and corporatization of family medicine (FM) may be increasing in some provinces. By catering to the “wealthy, worried, well”, growth in the number of private, for-profit FM practices may undermine the equity and accessibility of primary care. We conducted an environmental scan to explore the extent and nature of private, for-profit FM options across Canada.

**Approach:** We created a list of search terms drawn from background research and prior informal searches. From this list we conducted a preliminary search with each term concatenated with ‘Canada’ to compare relative strength for a final search string. Searches were done for each province separately using Google. We included clinics whose websites indicate that they have at least one medical doctor or Nurse Practitioner and who report requiring private payment for membership or services provided. From each website, we will extract information on payment (for which services and how much), range of services performed, and clinic location.

**Results:** Thus far, we have collected data from British Columbia, Alberta, and Saskatchewan. Data collection for the remaining provinces and territories will be completed before the conference. We have identified 12 clinics that met our criteria in British Columbia, 7 in Alberta, and 1 in Saskatchewan. Fees for services were available online from 5 clinics, with costs of membership ranging from \$1,800/year to \$4,495/year. Almost all clinics are located in affluent, urban areas. Forty percent of clinics were part of chains with multiple locations. Complete environmental scan results will be available at the time of the conference.

**Conclusion:** Early results suggest that the growth in the extent of private, for-profit FM varies by province. This model of care is a drain on the supply of physicians and other health professionals who could otherwise be working to address shortages in the public system and poses a threat to equity.

**Author Names:** Lindsay Hedden, Simon Fraser University; Aidan Bodner, Simon Fraser University; Ruth Lavergne, Simon Fraser University

## *Longitudinal study on benzodiazepine and opioid prescribing in Alberta, Canada*

Dr. Nancy Hernandez Ceron, CPSA

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** As the opioid epidemic unraveled, prescribers and regulators have had to adapt to the new reality and complexities that this issue has brought. In this talk, we explore trends of opioid and benzodiazepine (BDZ) prescribing by physicians in Alberta.

**Approach:** While pursuing evidence-based medical regulation, the College of Physicians & Surgeons of Alberta monitors the effects of its interventions to calibrate several improvement programs. Recently, a randomized controlled trial (RCT) of interventions to reduce BDZ prescribing to seniors was completed. To investigate how this RCT fits into the larger picture over time, opioid prescribing trends and volume were analyzed. The structure of patient-physician links was also analyzed using a bipartite graph.

**Results:** Monitoring prescription trends is essential but that alone is not enough; validating intervention measures is a necessary step to ensure an adequate, effective response to potentially harmful opioid prescribing.

**Conclusion:** This comprehensive study in opioid prescribing and doctor/patient associations sheds light on this important topic.

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## *Do you have a family doctor?: A Mixed-methods Health Policy Analysis of Primary Healthcare Reform in Canada*

Ms. Nicole Herpai, University of Manitoba

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** At the turn of the millennium, satisfaction and accessibility to the healthcare system in Canada fared poorly, attributable to years of funding retrenchment and unprecedented changes to health care delivery systems. Two high profile reports were commissioned, both emphasized enhancing access to primary care. The study objectives were to compare primary care accessibility across the provinces and identify key ideas, institutions and interests (3Is) that have contributed to the formation of primary care policy reform.

**Approach:** This mixed-methods health policy analysis is conceptualized through a political economy lens. First, data from the 2013/14 Canadian Community Health Survey was examined using logistic regression to determine if there was a difference in accessibility across the provinces as measured by whether or not respondents (aged 18 and older living in one of the 10 provinces in 2014) had a “regular medical doctor” (n = 115,220). Second, a documentary analysis was conducted of publicly available primary health care policy literature published from 2000 – 2013 (n = 103). Content and thematic analyses were conducted using Nvivo11.

**Results:** Differences in accessibility were observed, suggesting that provincial primary care policies directly affect residents’ access to primary care. Ontario residents had the best access. The Ideas prominent in this period were 24/7 Universal Access; Alternative Remuneration; Collaboration; Electronic Medical Records; Evaluation and Data; Increasing Efficiencies; Primary Care as Foundational; and System Change. The institutions were: The Canada Health Act, Canada Health Transfer, Federalism, Fee-for-Service, First Ministers Accords on Health Care Renewal, Primary Health Care Transition Fund, and Traditional Private Physician-led Practice. Federal Government, Nurses, Other PHC Providers, Physicians, Provincial Governments, the Public, and the Research Community were ascertained interests. The 3Is identified at the national level have produced somewhat different outcomes for primary care reform in the provinces, as provincial priorities make national goals concrete.

**Conclusion:** This study brings a novel perspective to primary care policy analysis; it contributes to understanding factors that influenced the primary care policy arena and draws lessons for improving the effectiveness of future policy making. It adds to the growing literature that applies a political economy lens to health policy analysis.

**Author Names:** Nicole Herpai, University of Manitoba

## *The Application of Drones in Healthcare and Health-Related Services in North America: A Scoping Review*

Dr. Bradley Hiebert, Western University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Using drone aircraft to deliver healthcare and other health-related services is a relatively new application of this technology in North America. For health service providers, drones represent a feasible means to increase their ability to provide services to individuals in difficult to reach locations. However, aside from the use of drones to improve access times to care, there is limited knowledge about the effectiveness of drones to deliver healthcare and health-related services in North America.

**Approach:** This paper presents the results of a scoping review of the research literature to determine how drones are used for healthcare and health-related services in North America, and how such applications account for human operating and machine design factors. Data were collected from Pubmed, CINAHL, Scopus, Web of Science, and IEEE Xplore using a block search protocol that combined 13 synonyms for “drone” and eight broad terms capturing healthcare and health-related services. 4655 documents were retrieved, and following a title, abstract, and full-text screening procedure completed by all authors, 27 documents were retained for analysis through a deductive coding framework.

**Results:** The most common healthcare and health-related service applications covered in the study sample included: reduction of emergency response times in urban and rural settings; delivery/transportation of medical supplies, treatments, and biological samples; and natural disaster/health hazard monitoring. In studies that focused on the drone technologies, measured outcomes included viability of biological samples and treatment supplies post-flight, security of drone payloads during flight, time to access drone-provided services compared to existing best practice, and quality of images produced by drone-mounted cameras. In studies that focused the drone operators, measured outcomes included operators’ speed and accuracy in identifying items through a drone-mounted camera, and operators’ ability to navigate a drone over various terrains. A single document focused on information privacy considerations when using drones for healthcare-related applications.

**Conclusion:** Overall, findings indicate that drones may represent a financially feasible means to promote healthcare and health-related service accessibility for those in difficult to reach areas. Also, drones may be most successfully integrated into healthcare teams if they are operated by specially trained drone pilots opposed to other healthcare professionals.

**Author Names:** Bradley Hiebert, Western University; Lorie Donelle, Western University; Elysée Nouvet, Western University; Vyshnave Jeyabalan, Western University



## *Patient Flow in the Emergency Department (ED): Retrospective Analysis of Administrative Data*

Dr. Marilyn Hodgins, University of New Brunswick

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Patient flow in the emergency department has been a focus of discussion, debate, and research for over 3 decades. This study was undertaken to examine four populations who may experience convoluted stays: recently discharged inpatients who present to ED within a week of discharge; ED patients triaged as high-acuity but are eventually discharged home; patients admitted to hospital but remain in ED awaiting transfer to inpatient unit; and frequent users of ED services (4+ visits).

**Approach:** A retrospective analysis was undertaken of electronically-available administrative data from one tertiary care facility for one fiscal year. Data were retrieved for 49,619 ED visits and 12,850 hospital stays. Descriptive analyses were conducted to examine the characteristics of each of the four patient populations and their length of stay in the department. Analyses were also conducted to compare differences between cases that did and did not attain the Targets (Median and 90th percentile) for ED length of stay established by the Canadian Wait Time Alliance (WTA) based on characteristics of the patients and the timing and nature of their presentation.

**Results:** Average number ED visits per day was 136 with daily volumes fluctuating from 94 to 172. The number of presentations per patient ranged from 1 to 95, with 9.4% classified as frequent users. Slightly more than half (54%) of cases were triaged as high acuity (CTAS 1, 2, 3) with 70% eventually discharged. Attainment of WTA targets for this population was observed as 56% were discharged within 4 hours (Median Target) and 90% within 8 hours (90th percentile). Attainment of targets for transfer of admitted patients to inpatient units was more challenging as only 41% were transferred within 2 hours (Median) and 75% within 8 hours (90th percentile). Differences in attainment for the populations were partially explained by characteristics of patients and their presentation.

**Conclusion:** Emergency departments play a unique role within the healthcare system due to their position at the intersection between inpatient and outpatient services. Closer examination of patient populations who may have more complicated ED flow patterns may assist in the identification of strategies to improve patient and performance outcomes.

**Author Names:** Marilyn Hodgins, University of New Brunswick; Nicole Moore, Dr. Everett Chalmer's Regional Hospital; Jennifer Little, Dr. Everett Chalmers Regional Hospital

## *Investigating access to community-based specialized geriatric care in Ontario*

Dr. Sophie Hogeveen, Women's College Hospital

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Geriatric medicine has an important role to play in caring for community-dwelling older adults in Ontario with complex needs, such as those receiving publicly funded home care (HC) services. Little is known about the practice patterns and determinants of contact with this specialty in the community. The study objectives were to describe patterns of service use, characteristics associated with geriatric medicine contact, and to propose a mechanism for more equitable referral and access to care.

**Approach:** This was a population-based retrospective cohort study of older long-stay HC clients in Ontario (N=196,444; 2012-2015). Standardized HC admission assessments were linked to health administrative datasets (out-patient physician billing records and acute care services use records). Descriptive statistics were used to describe service use patterns. Logistic regression and multivariable generalized estimating equation (GEE) modeling were used to examine associations between HC client characteristics and any outpatient geriatric medicine contact in 90 days post-assessment. Based on the results, provincial stakeholders partnered to create a standardized decision-support tool to identify HC clients who would most benefit from referral to geriatric medicine.

**Results:** 49.6% of older HC clients had  $\geq 4$  physician contacts post-assessment but only 5.2% had geriatric medicine contact. In the final multivariable GEE model, adjusted for regional effects, female sex, difficulties accessing home, impaired locomotion outside home, good prospects of recovery, hemiplegia/hemiparesis, and cancer were associated with lower odds of geriatric medicine contact. Age, worsening of decision-making, dementia, hallucinations, Parkinsonism, osteoporosis, and risk of caregiver distress and institutionalization were associated with higher odds of geriatric contact. A decision-support tool was proposed that identifies HC clients at risk for caregiver distress and institutionalization (based on current practice patterns), with medical instability and complexity (based on provincial expertise), and needs within multiple domains of the specialized geriatric services scope of practice for consideration for referral to geriatric medicine.

**Conclusion:** Few older HC clients are in contact with community-based geriatric medicine, despite having complex medical needs and frequent contact with the wider health system. A standardized decision-support tool could inform health workforce planning, improve collaboration of community-based care providers, and promote more rational and equitable allocation of resources.

**Author Names:** Sophie Hogeveen, Women's College Hospital; George Heckman, University of Waterloo; Kelly Milne, Regional Geriatric Programs of Ontario; John Hirdes, University of Waterloo

## *Improving health literacy and system navigation in Alberta through a volunteer patient advocacy service*

Mr. Zachary Hong, Open Arms Patient Advocacy Society

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** As health literacy remains an ongoing issue in Canada, patients can experience difficulty managing their healthcare or navigating an often-complex health care system. Due to the lack of available supports, this can discourage health-seeking behaviour, especially when combined with other factors such as distrust of the healthcare system or previous stigmatization. As a result, there is a need for patient advocacy as a healthcare support to help address the aforementioned challenges.

**Approach:** Founded by patients for patients as a volunteer-run non-profit in 2007, Open Arms Patient Advocacy Society (OAPAS) is the only Canadian organization of its kind offering free patient advocacy services. Through patient advocacy, OAPAS aims to improve public health by empowering Albertans with the knowledge and confidence to address their healthcare concerns.

Client cases are screened by a client intake coordinator to evaluate their suitability for the services of OAPAS. Exclusion criteria include cases where financial aid or legal action are sought. Cases are assigned to volunteer advocates, who provide personalized support to clients.

**Results:** OAPAS has assisted over 1200 patients to date, and has provided patients with: (1) in-person support at appointments, (2) assistance with obtaining diagnosis and treatment, (3) assistance with navigating healthcare system processes, and (4) personalized input on how to approach their healthcare situation. Recent trends in cases include: (1) mental health related concerns, (2) management of chronic pain, and (3) assistance with obtaining medical assistance in dying.

Patient advocates can facilitate an environment of trust between patients and their healthcare providers by bridging communication gaps or mediating conflicts. Furthermore, patient advocacy can provide valuable support to organizations that provide services (housing, financial, community resources) to vulnerable and underserved populations where healthcare navigation may not be a part of routine service.

**Conclusion:** Patient advocacy demonstrates efficacy in assisting patients with healthcare management and navigation. Data collected from clients may represent an underrepresented reservoir of data for informing public health policy to improve accessibility and navigation of the healthcare system, and would benefit from further investigation in health research.

**Author Names:** Zachary Hong, Open Arms Patient Advocacy Society; Farwa Naqvi, Open Arms Patient Advocacy Society

# *Application of administrative health data to track demographic, health care use, and mental health characteristics of people experiencing homelessness in Ontario, Canada*

Dr. Rahat Hossain, University of Toronto

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** People experiencing homelessness often have complex psychiatric and medical presentations and poor access to primary care. Emergency departments are often the main point of contact in the health care system for this population, leading to higher associated costs, greater resource utilization, and suboptimal outcomes. We aimed to characterize the health and health care access of the entire population of people experiencing homelessness in Ontario, Canada who accessed emergency department services between 2010 and 2017.

**Approach:** We used routinely-collected administrative health data from the Institute for Clinical Evaluative Sciences (IC/ES) to analyze ambulatory care records from 2010 to 2017 for people experiencing homelessness in Ontario. Records from the National Ambulatory Care Reporting System and OHIP Registered Persons Database were accessed. Homelessness was identified using a postal code identifier collected at registration during emergency department visits. We examined variables and outcomes including the number of unique patients, demographic characteristics, number of visits and repeat visits, geographic region, and type of presentation using ICD-10 codes.

**Results:** We observed 39,525 unique patients experiencing homelessness making 640,897 visits to emergency departments in Ontario during the study period. Males presented older and in greater numbers. Number of visits increased throughout the study period across Ontario. Patients were mostly located in urban centres. A visit to an emergency department resulted in a repeat presentation within 24 hours approximately 5.6% of the time (n = 36,450). Median time to repeat presentation was 14 days. The most prevalent presentations were mental health diagnoses which accounted for 34.8% of visits (n = 223,392). Within this category, presentations for psychoactive substance use consisted of 54.22% of the total (n = 121,112). Alcohol was the most common cause of substance related disorders (n = 84,805).

**Conclusion:** Administrative health data can measure health status and service use for people experiencing homelessness. Our findings suggest frequent presentations for mental health and substance use and very high rates of re-presentation. Shortcomings in service or care should be investigated and addressed to meet the needs of this vulnerable population.

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# *Lives at Stake - Intimate Partner Violence and Utilization of Antenatal Care: A Cross-sectional Study of Ever Married Women in Benin*

Ms. Dina Idriss-Wheeler, University of Ottawa

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** The Republic of Bénin, in sub-Saharan Africa, has high rates of intimate partner violence (IPV); 69% of Beninese women suffered abuse at least once in their lifetime. Furthermore, issues of access to reproductive health services exist suggesting inadequate utilization of antenatal care (ANC) services. The objectives were to (i) determine the prevalence and predictors of IPV and ANC utilization, and (ii) examine the relationship between IPV and ANC utilization, for ever married women in Bénin.

**Approach:** Cross-sectional data on 5408 ever married women between the ages of 15 to 49 years were collected using the 2017-2018 Women's Questionnaire of the Fifth Bénin Demographic and Health Survey (EDSP-V). Self-reported responses regarding IPV experience were classified into physical, emotional and sexual abuse. ANC utilization was classified by number of antenatal care visits by the women. Multivariable binary logistic regression was used to estimate the odds ratios (at a 95% confidence interval) of associations between ever married Beninese women experiencing IPV (sexual, physical, emotional), ANC utilization and the explanatory variables of interest. Data were analyzed using statistical software STATA16.

**Results:** We anticipate the following results as data analysis is still in progress. First, a detailed demographic profile of the surveyed ever married women in Bénin. Second, the prevalence of all types of IPV (sexual, physical and emotional) against Beninese ever married women as well as socio-demographic factors associated with IPV (i.e. age, socioeconomic status, wealth, education, residence, husband's characteristics). Third, utilization of ANC services in Benin will be highlighted, and its association with the stated socio-demographic factors of the women and their spouse will be revealed. Studies to date have revealed mixed results about the association between IPV and ANC utilization in low and middle income countries (LMICs). This study will provide further understanding of the predictive relationship between IPV and utilization of ANC services.

**Conclusion:** Threats to the basic human rights of women suffering from psychological, emotional, sexual and physical violence exist and under-utilization of necessary health services continue. Findings will contribute to the growing body of knowledge for policy makers and service providers to address the health inequities faced by this vulnerable population.

**Author Names:** Dina Idriss-Wheeler, University of Ottawa; Sanni Yaya, University of Ottawa

**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** The prevalence of Fetal Alcohol Spectrum Disorder (FASD) may be underestimated in early childhood as it can be difficult to diagnose in these early years, possibly reflecting unique developmental trajectories relative to other Neurodevelopmental Disabilities (NDDs). It is crucial to understand the early presentation and distinguishing components of FASD in order to have support networks in place prior to school entry to set children with FASD up for success in learning.

**Approach:** Using data collected for 603,904 kindergarten children between 2010 and 2015 via the Early Development Instrument (EDI), a teacher-completed questionnaire of children's developmental health, the objectives of this population-wide, retrospective study were to determine 1) the reported prevalence of FASD identified on the EDI, 2) the prevalence of home problems among these children in comparison with children with other developmental disabilities; and 3) the concurrent developmental health status of children with FASD. Three groups were constructed: children with FASD only, children with FASD and other comorbidities (FASD+), and those with other NDDs.

**Results:** Descriptive statistics were used to examine the prevalence of children with FASD, FASD +, and other NDDs, as well as the presence of home problems in these three groups. The prevalence of FASD ranged from 0.01% to 0.31% and a greater percentage of children in the two FASD groups had teacher-reported home problems that interfered with their classroom functioning in comparison with other NDDs group. Multivariate analyses of covariance were used to examine differences in the five developmental domains and 16 subdomains of the EDI in jurisdictions with sufficient numbers: Ontario, Manitoba, Alberta, and British Columbia. Overall, children with FASD had higher mean scores on the developmental domains compared to children with NDDs, although some small provincial differences were observed.

**Conclusion:** This population-wide study of FASD in Canada can help inform strategies and policies for early identification and intervention. A better understanding of characteristics of children with FASD and their home environments may be an important starting point in improving our ability to distinguish features that may help identify children earlier.

**Author Names:** Magdalena Janus, McMaster University; Jacqueline Pei, University of Alberta; Caroline Reid-Westoby, McMaster University; Ayesha Siddiqua, McMaster University; Yomna Elshamy, University of Alberta; Devyn Rorem, University of Alberta

## *Access to healthcare services in Saskatchewan and Remote Presence Technology*

Ms. Rachel Johnson, University of Saskatchewan and Northern Medical Services

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** People living in rural and remote areas experience disparity to accessible healthcare services, have poorer health and worse outcomes compared to their urban counterparts. Remote Presence Technology (RPT) is one initiative that is gaining traction in Saskatchewan to help combat the disparity in access. As this initiative is being implemented, it is vital to understand the barriers to accessing care and determine how to best leverage RPT to address the specific needs in Saskatchewan effectively.

**Approach:** Budget and resource constraints led to the centralization of healthcare, leaving insufficient services in rural areas and causing more people to travel greater distances to access healthcare. Rural patients have poorer access to primary care, specialist services, allied health professionals, and diagnostic services. The need to transport patients to services results in delays of patients receiving definitive care and poorer health outcomes. Medical transportation is costly to the healthcare system and creates unfunded expenses that patients must absorb. Out-of-pocket costs are exponentially higher for rural residents, and can result in patients delaying or not seeking treatment at all.

**Results:** RPT can increase equitable access to many services that are not otherwise available in rural communities. RPT can help decentralize healthcare by bringing health services to the patient. RPT increases point of care access to physicians, specialists, and other health care providers' services across the province. Some diagnostic equipment, such as ultrasound probes, can connect to the RPT device. Using RPT, providers can deliver a broad spectrum of services, including life-saving resuscitations, emergency or urgent care, as well as primary care and specialist consultations, in real-time, and at the point-of-care of the patient. By providing services remotely, more patients can remain in their community with their family and support systems, and reduce the financial burden of covering the unfunded costs.

**Conclusion:** RPT can effectively address the specific barriers to healthcare that rural residents experience in Saskatchewan. Improving access to care in rural communities can have a positive effect on health outcomes. RPT maintains the judicious use of scarce resources, which have far-reaching benefits to the overall sustainability of the healthcare system.

**Author Names:** Rachel Johnson, University of Saskatchewan and Northern Medical Services

## *Co-design in aKtion in Australia: Aboriginal Kidney Care Together- Improving Outcomes Now*

Dr. Janet Kelly, University of Adelaide

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**Category:** Poster

**Primary Theme:** Indigenous Health

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** This health translation project brings together Aboriginal kidney 'patients' and family members, health professionals, health services, peak bodies, educators and researchers. It is developing respectful and safe ways to identify gaps and improve kidney care in South Australia. One major objective is to meaningfully involve Aboriginal care recipients in improvement strategies for hospital, dialysis and community based services.

**Approach:** All aspects of this project are guided by the aKtion Reference Group comprising Aboriginal kidney patients and carers who provide cultural leadership and governance. Community consultations, focus groups and Aboriginal kidney patient journey mapping have been undertaken in urban, rural and remote locations. A multi-agency workshop and multi-disciplinary Implementation Working Groups are now addressing consumer and health professional priorities. Illustrative case studies have been developed for health service training and university based medical, nursing and health sciences courses.

This research has established and embedded new consumer feedback pathways that are enabling ongoing co-design feedback and quality improvement.

**Results:** A strong and effective aKtion Reference Group has developed, supported by an Indigenous researcher/facilitator and a modest budget enabling transport, sitting fees and catering. This group now provide ongoing guidance to the project and local renal services. They have initiated one to one and collaborative peer support activities within the hospital, dialysis and community settings. Community consultations have been well attended by diverse Indigenous groups, and further inform local, state and national kidney services and clinical guidelines. A new approach to mapping kidney journeys has been co-developed and is being adapted with clinicians to improve day to day clinical practice. Ongoing Kidney Yarning Gatherings bring together community members and alternate between cultural-social and health literacy and education activities.

**Conclusion:** Multiple strategies and co-design help address disparities in health outcomes that exist for Indigenous peoples. Aboriginal people are experts of their own health care and wellbeing needs, but this is not always recognised or utilised within mainstream health care systems. Equity in action involves establishing new mechanisms within healthcare systems.

**Author Names:** Janet Kelly, University of Adelaide ; Kim O'Donnell, University of Adelaide



## *What Matters to Albertans who have Cardiac Surgery? A Partnership with Patients to Co-Design a Better Experience Survey*

Mr. Kyle Kemp, University of Calgary

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Experience surveys provide an opportunity for patients to give their feedback about healthcare processes and services. This can highlight leading practices, as well as areas for improvement. Unfortunately, the majority of current surveys have been designed as “one-size fits-all” tools, and thus, do not take into account items pertaining to specific clinical groups. The objective of this study was to co-design an inpatient hospital experience survey specifically for those who have undergone cardiac surgery.

**Approach:** Participants were recruited via e-mail, regular mail, and social media (Twitter, Facebook), with the collaboration of the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) and the Patient Engagement Platform of the Alberta Strategy for Patient Oriented Research (SPOR). Eligible participants were adults who underwent cardiac surgery due to stable angina or acute myocardial infarction across Alberta. Following a literature review, individual telephone interviews were conducted until thematic saturation took place. Interviews were recorded and transcribed. Thematic analysis generated a list of items deemed important by participants. Once constructed, participants reviewed a preliminary version of the survey.

**Results:** Eight interviews were conducted in July and August 2019, Participants included 7 males and 1 female, ranging from 55 to 84 years of age. Overall, participants indicated that their experiences with care were quite good, and in many instances, life-saving. Predominant themes deemed important to participants included access to care, interactions with hospital staff, pain control and medications, returning to home, resuming normal activities, and the importance of cardiac rehabilitation. This feedback was combined with items from the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) and the National Survey of Coronary Heart Disease (United Kingdom) to create a 55-question draft survey. Survey participants reviewed the survey for content, language, and readability.

**Conclusion:** Our study presents an example of successful collaboration between researchers and patients to improve upon a measurement status quo. A follow-up study to evaluate the validity, reliability, and feasibility of the survey is currently underway. Once concluded, the vision is to embed this survey in routine clinical care.

**Author Names:** Kyle Kemp, University of Calgary; Hude Quan, University of Calgary; María José Santana, Cumming School of Medicine, university of Calgary; Syeda Farwa Naqvi, University of Calgary ; Elizabeth Oddone Paolucci, University of Calgary; Merril Knudtson, University of Calgary

*The governmental health policy- development process for Syrian refugees: an embedded qualitative case studies in Lebanon and Ontario*

Mr. Ahmad Firas Khalid, McMaster University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The unprecedented amount of resources dedicated to humanitarian aid has led many stakeholders to demand the use of reliable evidence in humanitarian aid decisions to ensure that desired impacts are achieved at acceptable costs. However, little is known about the factors that influence the use of research evidence in the policy development in humanitarian crises. We examined how research evidence was used to inform two humanitarian policies made in response to the Syrian refugee crisis.

**Approach:** We identified two policies as rich potential case studies to examine the use of evidence in humanitarian aid policy decision-making: Lebanon's 2016 Health Response Strategy and Ontario's 2016 Phase 2: Health System Action Plan, Syrian Refugees. To study each, we used an embedded qualitative case study methodology and recruited senior decision-makers, policy advisors, and healthcare providers who were involved with the development of each policy. We reviewed publicly available documents and media articles that spoke to the factors that influence the process. We used the analytic technique of explanation building to understand the factors that influence evidence use.

**Results:** We interviewed eight informants working in government and six in international agencies in Lebanon, and two informants working in healthcare provider organizations and two in non-governmental organizations in Ontario, for a total of 18 key informants. Based on our interviews and documentary analysis, we identified that there was limited use of research evidence and that four broad categories of factors helped to explain the policy-development process for Syrian refugees – development of health policies without significant chance for derailment from other government bodies (Lebanon) or opposition parties (Ontario) (i.e., facing no veto points), government's engagement with key societal actors to inform the policy-development process, the values underpinning the process, and external factors significantly influencing the policy-development process.

**Conclusion:** This study suggests that use of research evidence in the policy-development process for Syrian refugees was subordinate to key political factors, resulting in limited influence of research evidence in the development of both the Lebanese and Ontarian policy.

**Author Names:** Ahmad Firas Khalid, McMaster University; John Lavis, McMaster University; Meredith Vanstone, McMaster University; Fadi El-Jardali, American University of Beirut

*Supporting the use of research evidence in decision-making in crisis zones in low- and middle-income countries: A critical interpretive synthesis*

Mr. Ahmad Firas Khalid, McMaster University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Decision-makers in crisis zones are faced with the challenge of having to make decisions under limited time and resources constraints. To address a key gap in the research literature about how best to support the use of research evidence, we conducted a critical interpretive synthesis approach to develop a conceptual framework that outlines the strategies that leverage the facilitators and address the barriers to evidence use in crisis zones.

**Approach:** We systematically reviewed both empirical and nonempirical literature and used an interpretive analytic approach to synthesize the results and develop the conceptual framework. We used a “compass” question to create a detailed search strategy and conducted electronic searches in CINAHL, EMBASE, MEDLINE, SSCI and Web of Science. A second reviewer was assigned to a representative sample of articles. We purposively sampled additional papers to fill in conceptual gaps.

**Results:** We identified 21 eligible papers to be analyzed and purposively sampled an additional 6 to fill conceptual gaps. The synthesis resulted in a conceptual framework that focuses on evidence use in crisis zones examined through the lens of four systems - political, health, international humanitarian aid, and health research. Within each of the four systems, the framework identifies the most actionable strategies that leverage the facilitators and address the barriers to evidence use.

**Conclusion:** This study presents a new conceptual framework that outline strategies that leverage the facilitators and address the barriers to evidence use in crisis zones within different systems. This study expands on the literature pertaining to evidence-informed decision-making.

**Author Names:** Ahmad Firas Khalid, McMaster University; John Lavis, McMaster University; Meredith Vanstone, McMaster University; Fadi El-Jardali, American University of Beirut

## *Goal-Oriented Care and Continuity in a Long-Term Care Setting*

Ms. Madeline King, Telfer School of Management, University of Ottawa

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Seniors are entering long-term care when they are older, frailer and have more complex needs than in the past. Providing care based on patient values, priorities and goals may improve care continuity in this setting, resulting in higher quality of life for older adults. The objective of this study was to examine whether and how a goal-oriented care approach influenced continuity of care in a long-term care setting.

**Approach:** The study was set at a 450-bed long-term care centre in Ontario. The long-term care facility recently introduced a new program using a frailty-informed approach to care that includes eliciting client goals. This provided an intrinsic case that could offer insight into how to support better care continuity in long-term care settings. We used an exploratory case study approach, including a review of documentary evidence and 13 semi-structured interviews with administrators, care providers, and clients.

**Results:** Preliminary results show that the goal setting components of the program are a key mechanism in continuity of care. Based on interviews with administrators and care providers, the program is facilitating continuity of care for clients within the center. Although administrators and some care providers reported that clients are aware of the program and its benefits, clients themselves are unaware of the program and its impact on their care. However, clients' descriptions of their experience of care points to experiences of care continuity. Factors that facilitate continuity include: a standardized approach for discussions between clients and care providers, improved documentation of client information, and scheduled check-ins with clients and their family members.

**Conclusion:** Increased continuity of care improves health outcomes and decreases strain on healthcare systems, but continuity of care for older adults is not yet a reality in most long-term care settings. This study addressed a gap in research by examining how goal-oriented care may contribute to continuity in long-term care.

**Author Names:** Madeline King, Telfer School of Management, University of Ottawa; Agnes Grudniewicz, Telfer School of Management, University of Ottawa

## *Addressing Stigma: An Action Framework for Building an Inclusive Health System*

Mr. David Kitchen, Public Health Agency of Canada

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Canada's Chief Public Health Officer has released their annual State of Public Health Report. This year's report focuses on negative health outcomes caused by stigma. The report also includes an Action Framework to help guide research and policy towards more inclusive outcomes. The presentation will describe the framework and how it can be applied from individual to organizational and systemic to societal levels of stigmatization.

**Approach:** The session will introduce the Action Framework for Building an Inclusive Health System, and provide examples of evidence-based interventions to eliminate stigma at the individual, interpersonal, institutional, and population levels. The framework emphasizes the importance of addressing intersectional stigma, and includes considerations for designing and implementing actions to reduce stigma in research, health system structures, and policy making. The framework also recommends approaches for stigma at the individual, interpersonal, systemic and societal level.

**Results:** 1. Examine the ways stigmas associated with social identities and health conditions intersect and contribute to negative mental and physical health outcomes of stigmatized individuals and/or groups.

2. Share approaches and intervention options for addressing stigma at multiple levels of the health system (individual, interpersonal, institutional, and population).

3. Identify and describe core research and policy planning principles to address intersectional stigma

**Conclusion:** This session will provide an overview of a new model/framework that can be used to understand how intersecting stigmas negatively impact health and why stigma is a fundamental driver of health inequities. Participants will be able to apply the framework in their own research and policy settings.

**Author Names:** David Kitchen, Public Health Agency of Canada; barbara rawluk, Public Health Agency of Canada; Theresa Tam, Public Health Agency of Canada

## *User-Centred Design to Refine A Postpartum Mental Health Primary Care Tool*

Ms. Natasha Kithulegoda, Women's College Hospital

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** While postpartum depression and anxiety are common, most parents do not seek treatment and few primary care providers (PCPs) proactively assess the mental health of new parents. We aimed to create a digital health tool that supports proactive screening and tailored treatment of postpartum mental health, using a user-centered design (UCD) approach. There is increasing evidence that using this iterative framework grounded in the needs of the end-user can increase uptake and scale of

**Approach:** To understand the needs of end-users and refine the design of an eHealth tool to support postpartum mental health, a UCD process was carried out consisting of three phases: (1) low-fidelity prototype development by a team of PCPs, psychiatrists and researchers; (2) prototype testing through focus groups and semi-structured interviews with target end-users to understand needs, values and engagement; and (3) incorporating feedback to create a final prototype.

**Results:** 2 PCP focus groups and 11 parent interviews were conducted. PCPs provided feedback on alignment with care pathways, and language for the electronic medical record. Insights from parents included layout for ease of use, incorporating lay language and consideration of the unique challenges related to parenthood such as relationships, financial stress, and the stigma associated with mental health, especially among fathers. A final prototype was developed based on user input and included an e-survey and algorithm that produced tailored e-toolkits for both the patient and PCP, based on e-survey responses.

**Conclusion:** UCD in intervention development enabled researchers to elicit early feedback from end-users, minimizing the overuse of resources during the design phase, and maximizing the consideration of end-user needs.

**Author Names:** Natasha Kithulegoda, Women's College Hospital; Payal Agarwal, Women's College Hospital; Noah Ivers, Women's College Hospital

# *Navigating social roles, stigma and awareness of symptoms: A qualitative study exploring barriers to seeking mental healthcare as a new parent*

Ms. Natasha Kithulegoda, Women's College Hospital

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Postpartum depression and anxiety (PPD/A) is experienced by over 10% of both men and women. While effective, evidence-based treatment exists for these PPD/A, parents are underdiagnosed and undertreated. The objective of this qualitative study was to understand the barriers and facilitators to seeking postpartum mental healthcare from the perspective of both mothers and fathers using an approach that could directly inform viable interventions to improve their access to care.

**Approach:** We conducted 11 semi-structured one-on-one interviews with 5 mothers and 6 fathers that had lived experience of PPD/A. The interviews were audio recorded, transcribed and de-identified. Interview questions focused on the participant's lived experience with PPD/A and their perceived barriers and facilitators to seeking care for PPD/A. The interview guide was informed by the Theoretical Domains Framework (TDF) to probe for numerous barriers and facilitators to seeking care. Direct content analysis was used to analyze interview data, and the TDF was applied deductively to identify key barriers and facilitators to seeking care for PPD/A.

**Results:** To seek care, parents first seemed to require greater ability to identify their symptoms, and often lacked the knowledge necessary to do this. Perceived social role as a new parent and lack of social support in the postpartum period were often described as creating barriers to seeking care. Relatedly, social influences were identified as essential to encouraging parents who could not identify their symptoms to seek care. A common challenge to seeking care was the stigma created by parents' traditional social role and social influences, especially in fathers. Once parents were able to seek care, additional challenges were faced in their environmental context including the ability to access the right healthcare professional, receive appropriate help, and navigating the system to access additional resources.

**Conclusion:** Our findings show that many parents lack the knowledge and resources necessary to identify symptoms of PPD/A on their own. Without this ability, parents were significantly delayed in seeking care. Future work should explore programs that aid in the identification of symptoms of PPD/A, to enable care seeking behaviours.

**Author Names:** Natasha Kithulegoda, Women's College Hospital; Natalya O'Neill, University of Toronto; Laura Desveaux, Women's College Hospital; Thivja Sribaskaran, Women's College Hospital; Noah Ivers, Women's College Hospital

## *Doing better for LGBTQ2+ youth in health and social services*

Ms. Lisa Lachance, Wisdom2Action/Dalhousie University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Homophobia and transphobia fundamentally shape the health and well-being of LGBTQ2+ young people. LGBTQ2+ youth are significantly more likely to struggle with mental health problems, to experience homelessness and to have substance use issues, but are less likely to access health and social services, and less likely to receive the inclusive care they need when they do.

**Approach:** This presentation builds on two innovative youth engagement projects:

In 2019, Wisdom2Action led a national youth engagement initiative on behalf of the Public Health Agency of Canada to understand the experiences of LGBTQ2S+ youth and Gender-Based Violence and also their priorities for addressing the initial. This was a youth-engagement project, led by youth in development, implementation, analysis and recommendations.

In late 2018, Wisdom2Action worked with the Mental Health Commission of Canada to host a ground-breaking summit of LGBTQ2S+ emerging adults to focus on their experience seeking mental health support.

**Results:** In both cases, LGBTQ2S+ youth identified significant areas of concern. In the GBV project, they noted that schools, homes, and social and health services are all contexts where they have experience gender-based violence and/or received care that was not inclusive and responsive to their specific identities and needs. Youth also identified the impact of street-level harassment on their safety and mental health. For LGBTQ2S+ emergent adults, there was significant concern on how negative health care experiences continued to impact help-seeking behaviour and the quality of care received. In both projects, youth called for anti-oppressive, trauma-informed care and services as the basis for building equitable access to health and social services for LGBTQ2S+ youth.

**Conclusion:** There is increasing knowledge and practice experience of how a trauma-informed, anti-oppressive, youth-engaged approach can enhance the experience of LGBTQ2S+ youth seeking health and social services. Better experience will improve help-seeking behaviour and ideally, led to improved health outcomes.

**Author Names:** Lisa Lachance, Wisdom2Action/Dalhousie University



## *Association between fidelity to the strengths model of case management for people with severe mental illness and outcomes*

Dr. Eric A Latimer, McGill University

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Evidence indicates that intensive case management services delivered to people with severe mental illness in community settings reduces hospitalizations and can improve other outcomes such as quality of life. Across Canada, however, there is considerable variation in just how these services are delivered. Our objective was to test the hypothesis that higher fidelity to a specific model of case management, the strengths model, would be associated with improved outcomes.

**Approach:** Sixteen case management teams in Ontario (Toronto, Kingston, Ottawa) and Québec (Granby, Québec City, Saguenay) received initial training in the strengths model. One previously trained team in St John's NL was also included. Model fidelity was assessed by independent evaluators at 6-month intervals from the Fall of 2014 to the Fall of 2016, and again in the Fall of 2017. New clients of each case management program were recruited and followed for 18 months. They were assessed for quality of life, hope, community functioning, community participation, as well as days of hospitalization, stable housing and competitive employment.

**Results:** 315 participants were recruited between late 2014 and early 2016. Half were male, average age was 40 years and 34% had not completed high school. Fidelity scores ranged from 14 to 28 at baseline (maximum 40) and rose to a range of 18 to 37 at the end; the site that improved least rose from 14 to 18 (with 23 at an intermediate time point), while the site that improved most rose from 24 to 37. Thus, as expected, sites varied in the extent to which they succeeded in implementing the model. However, accounting for the number of tests, and controlling for baseline characteristics, we found only a trend ( $p=0.03$ ) towards higher fidelity being associated with a greater number of days of competitive employment.

**Conclusion:** This analysis did not reveal as strong an association between fidelity to the strengths model and outcomes as had been hypothesized. Analyses of implementation and qualitative participant interviews are being completed and may add nuance to this finding.

**Author Names:** Eric A Latimer, McGill University; Tim Aubry, University of Ottawa; Beverley Barrett, Eastern Health; Alissa Setliff, Eastern Health; Catherine Briand, Université du Québec à Trois-Rivières; Catherine Vallée, Université Laval; Terry Krupa, Queen's University; Janet Durbin, Centre for Addiction and Mental Health; Christiane Bergeron-Leclerc, Université du Québec à Chicoutimi; Rick Goscha, California Institute for Behavioral Health Solutions

## *Experiences of mentally ill clients of case management programs in the process of implementing the strengths model: A qualitative analysis*

Dr. Eric A Latimer, McGill University

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Evidence suggests that the strengths model may be an effective way of orienting the work of intensive case management teams. Little is known about how clients experience it, however. Our objective was to determine whether following the strengths model more closely translated into enhanced subjective experience in the program, personal goal attainment and quality of life, from the point of view of clients.

**Approach:** Case management teams in 3 Ontario sites (Toronto, Kingston, Ottawa), 3 Québec sites (Granby, Québec City, Saguenay) and 1 Newfoundland site (St John's) received training in the strengths model. A purposive sample of 35 clients was drawn from all the sites. Clients were invited to participate in a semi-structured qualitative interview. The interview guide asked about experiences with the case management program in general and then followed up with more specific questions derived from strengths model theory. Conventional content analysis, carried out by a research assistant and 3 investigators, was applied to the transcripts.

**Results:** Preliminary results suggest that clients perceived most clearly the application of four of the six principles of the strengths model: a focus on strengths available to the client (personal and social/environmental), the central importance of the client-case manager relation, and the community both as the main locus both of intervention and an oasis of resources. The importance of the client-case manager relation expressed itself in respect for the client's pace as well as in reliance on hope-inducing strategies. With respect to the fourth principle, clients noted in different ways their case manager's support for helping them enter enabling niches, i.e., social environments favoring growth and recovery. This in turn influenced the goals that clients mentioned, and led to some improvements in quality of life.

**Conclusion:** Clients appreciated features of the strengths model that they could experience directly. Their constrained life circumstances and the limited time horizon of the study may have limited their ability to perceive improvement in their quality of life. Overall, results reinforce other evidence in support of the strengths model.

**Author Names:** Eric A Latimer, McGill University; Elisabeth Graveline, Douglas Research Centre; Catherine Vallée, Université Laval; Terry Krupa, Queen's University; Catherine Briand, Université du Québec à Trois-Rivières; Christiane Bergeron-Leclerc, Université du Québec à Chicoutimi

## *Entry to practice among primary care physicians in British Columbia: Exploring patterns by age, gender, and place of graduation*

Dr. Ruth Lavergne, Simon Fraser University

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**Category:** Poster

**Primary Theme:** Health Human Resources

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Canadians report persistent problems accessing primary care, despite increasing per-capita supply of primary care physicians. There is growing research focus on changing patterns of physician practice in primary care, as well as on workforce demographic shifts such as feminization and roles of international medical graduates. Entry to practice may vary across groups, which has implications for both workforce planning, and for research where it is important to know how long physicians have been in practice.

**Approach:** We used linked administrative data including all physician fee-for-service billing and shadow billing records, all prescriptions dispensed, and all hospital discharges in the province of British Columbia (BC) over the period from 1996/7 to 2016/7. We explore entry to practice by computing lag times as the difference between the first year of observed activity in any of the physician billings, prescribing, or hospital records, and the year their MD was awarded. We stratified analysis by place of graduation, age and gender.

**Results:** As expected, graduates of international medical schools had longer lag times: 6.3 years (SD 4.6) for graduates of American schools and 7.6 years (SD 4.4) for other international schools, compared to 3.1 years (SD 2.4) for Canadian graduates. We also found differences by age at time of MD with older physicians having slightly longer lag time. Contrary to expectations based on survey data, differences by gender were small. Lag time does not appear to vary based on data source, with average lag differing only 0.3 years between physician billings, prescriptions, and hospital records.

**Conclusion:** We found considerable variability in time between degree and practice entry among primary care physicians in BC. Future research exploring years in practice should be attentive to differences in practice entry by training location and age. Speculation that female physicians spend longer in residency is not supported by our data.

**Author Names:** Ruth Lavergne, Simon Fraser University; Sandra Peterson, Centre for Health Services and Policy Research, UBC; Lindsay Hedden, Simon Fraser University

*Patient partnership as a lever for achieving the “quadruple aim”: co-creating value and equity in the health sector.*

Dr. Audrey L'Espérance, Centre of Excellence on Partnership with Patients and the Public

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** In the health ecosystem, public actors must act in increasingly complex management contexts, challenging the decision-making process. While knowledge is the application of information, some questions remain: how, when and in which form we should apply it? In this study, we hypothesize that patient partnership is the primary value generator in the health ecosystem and promotes increased health equity.

**Approach:** We identified French and English papers for possible inclusion by combining searches of electronic databases, hand searches of reference list of papers, contact with experts in patient partnership, and a purposive hand search of grey literature. In addition, evaluations of recent initiatives led by the Centre of Excellence on Partnership with Patients and the Public will illustrate this argument.

**Results:** We will present the combination of expertise/experience, or expert knowledge/ lay knowledge as allowing co-creation of value in healthcare. Several mechanisms must therefore be put in place for this relationship to bring value: the relationship through the life trajectory, reflexive action, co-construction and positive deviance. We will explain how these mechanisms guarantee a relationship capable of balancing many forms of knowledge to build value in the short and long term. The value we will talk about harmonizes with the "Quadruple Aim" often cited as the standard to be achieved in health.

**Conclusion:** Partnership between patients and health experts make it possible to respond in an integrated manner to these four aims. Patient/expert dyads bring value in a health ecosystem that seeks both the support of scientific knowledge and the anchoring of experiential knowledge.

**Author Names:** Audrey L'Espérance, Centre of Excellence on Partnership with Patients and the Public; Genevieve David, 1) Centre de recherche du CHUM, 2) École nationale d'administration publique; Vincent Dumez,

## *Nature and effect of patient-initiated consultations in community pharmacies*

Ms. Man Qing Liang, CHUM Research Center

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Access to primary care is a top priority in many countries, especially for patients and policymakers. Clinical consultations dispensed by pharmacists in community pharmacies are promoted as a cost-effective strategy to improve primary care. However, little is known about these consultations initiated by patients (i.e. unrelated to medication dispensing). This study aims to describe the nature of patient-initiated consultations in community pharmacies and to estimate the impact of these consultations on patients' care-seeking behaviors.

**Approach:** An observational study was conducted in 11 retail pharmacies in Quebec, Canada, from October until December 2017. For a 4-week period in each pharmacy, pharmacists compiled their consultations in an application (app) designed for the project. Consenting patients (22%) were interviewed on the day of the consultation and the following week. Data about each consultation were merged to compare the pharmacist's and the patient's descriptions of the same consultation. Descriptive statistics on the number of consultations, the characteristics of the consultation, the recommendation and the experience of the patient were calculated using both sources of information (app and interviews).

**Results:** A total of 4,994 consultations were compiled in the app by 55 pharmacists, with an average of 18 (SD 7) consultations entered per pharmacy per day. 900 patients consented to participate in the first interview, while 600 patients completed the two interviews. The top reasons reported by patients to initiate a consultation with the pharmacist were a health concern (e.g. pain, cold, cough) (75%, 451), whereas only 17% (104) of patients reported consulting for a medication-related concern. 94% of patients reported a high or very high level of satisfaction and 89% reported that the consultation led to a lower level of anxiety. 77% (463) of patients believe that the consultation avoided them to seek care with another healthcare resource (e.g. GP, walk-in clinic, ED).

**Conclusion:** This study, based on triangulated patients' and pharmacists' data, suggests that the reasons patients are seeking consultations with pharmacists are diverse. Pharmacists are equipped to manage most of these consultations without referring to another healthcare resource. Further research should investigate how to improve pharmacists' integration into formal primary care organizations.

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## *Clinical dashboards in primary care: A qualitative evaluation of behavioral and contextual factors influencing engagement and sustained use*

Ms. Rebecca Liu, Women's College Hospital-Institute for Health Systems Solutions & Virtual Care

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Clinical quality dashboards may not change primary care provider (PCP) practice routines on their own. To optimize the utility of dashboards, OntarioMD's Insights4Care (i4C) Program pairs a digital health solution with advisory services to improve quality improvement along with facilitating change management processes. As current evidence on the coupling of dashboards with consultation support is limited, this evaluation examines the behavioral and contextual factors associated with i4C (dashboard and advisory services) engagement and sustained use.

**Approach:** A total of 30 semi-structured interviews will be conducted and transcribed to describe the different i4C Program user experiences, including PCPs, associated staff, patient advocates, and dashboard practice advisors. Interview guide development will be informed by the Theoretical Domains Framework (TDF) and Extended Technology Acceptance model (TAM2) to assess the impact of the i4C program on decision making in different contexts and identify specific areas that can be ameliorated to address clinical end user needs. Emerging themes relating to various domains of the framework and model will be highlighted.

**Results:** Emerging themes across all participant types will be mapped to TDF and TAM2 to underscore behavioral and contextual factors affecting user engagement and sustained use. Given the i4C Program provides real-time visualization of a range of recognized health indicators, the health technology service may enable PCPs to enhance population health management by responding proactively to patient needs. The inclusion of the advisory services may also serve to tackle the slow adoption of digital health technologies among PCPs and support them in becoming proficient users of digital health solutions.

**Conclusion:** The i4C Program behavioral and contextual factors identified elucidate the unique mechanisms affecting user engagement and sustained use. To enhance the spread and scale of the i4C Program, this evaluation provides insight in facilitating dashboard and advisory service implementation and adoption.

**Author Names:** Rebecca Liu, Women's College Hospital-Institute for Health Systems Solutions & Virtual Care; Michelle Phung, Women's College Hospital-Institute for Health Systems Solutions & Virtual Care; Megan Nguyen, Women's College Hospital Institute for Health Systems Solutions and Virtual Care; Rebecca Yang, WCH ; Onil Bhattacharyya, Women's College Hospital

## *Improving ICD-10-CA coded administrative data collection for Mental and behavioural disorders due to psychoactive substance use*

Ms. Janice MacNeil, Canadian Institute of Health Information

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Harm from substance use is an area of growing focus in Canada and administrative data can provide valuable information. However, results of a newly developed indicator, Hospital Stays for Harm Caused by Substance Use, showed high volumes (12%) of an ICD-10-CA code not easily actioned (F19: Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances). The Canadian Institute for Health Information wanted to identify opportunities for data improvement.

**Approach:** CIHI initiated a clinical documentation review of cases with codes assigned for Mental and behavioural disorders due to psychoactive substance use. With the support of Canada's National Classification Advisory Committee, 54 charts from 7 provinces were reviewed. This included a mixture of inpatient and emergency department cases. For each case, CIHI Classification Specialists reviewed and analyzed the clinical documentation to identify challenges and opportunities for improved data collection. (i.e. greater specificity)

**Results:** The review of clinical documentation identified the following areas for improvement:

- o Investigate specificity of clinical documentation for capture of substance use diagnoses
- o Provide coding direction for classifying drug use versus harmful use
- o Clarify coding of conditions due to substance use
- o Clarify application of diagnosis typing rules for substance use
- o Enhance category F19 Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances ICD-10-CA version 2021 to distinguish cases of "Other specified", "Unspecified multiple", and "Unknown"

The areas for improvement will be addressed by developing a new Coding Standard for version 2021, enhancements to the classification and providing coding education along with making recommendations for clinical documentation improvement

**Conclusion:** Better data can support improved substance use action across Canada. CIHI's review of clinical documentation is informing enhancement of the Canadian Coding Standards and identifying opportunities to improve classification and clinical documentation. These initiatives offer a path to improve the quality of the information available for reporting on substance

**Author Names:** Janice MacNeil, Canadian Institute of Health Information; Cassandra Linton, CIHI

*Describing retirement home residents in Ontario, Canada: findings from the first population-level cohort using linked health system administrative data*

Mr. Derek Manis, McMaster University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Retirement home (RH) residents have not been investigated to the same extent as community-dwelling older adults and individuals in long-term care. RH are private firms that provide assisted living services that fit within the gradient between home care and long-term care. The demand for services offered by RHs will increase as more Baby Boomers retire. We collaborated with the Retirement Home Regulatory Authority (RHRA) and ICES to create the first population-level cohort of RH residents.

**Approach:** Using the RHRA's public register, we linked the licensed RH's postal code to the Registered Persons database at ICES. We only included individuals 65 years of age or older. Using individual key numbers, we linked to the Continuing Care Reporting System to exclude those in long-term care. We compared the capacity of the RH from the Registered Persons to the number of individuals in the same postal code of the RH. We then manually examined the areas attributed to a RH's postal code to determine if the postal code was unique, likely unique, or not unique to the RH.

**Results:** We identified 382 unique, 117 likely unique, and 309 not unique RH. RH residents have a mean age of 86 years (IQR 83-91), are 70% female, and 97% live in an urban area. Hypertension (83.4%), dementia (30.1%), diabetes (28.8%) and COPD (28.4%) were the most prevalent health conditions. During the 2018 year, 1.2% of RH residents had more than four hospital discharges. During the 2017-2018 period, 43% of RH residents were long-stay home care clients. Personal support workers and nursing services were the most prevalent services totaling 2,367,033 and 203,006 hours, respectively. During the same time period, there were 9,629 post-acute episodes, and 21.4% of RH received post-acute care. Personal support worker and nursing hours for post-acute episodes totaled to 293,767 and 56,221 hours, respectively.

**Conclusion:** Our novel data science approach to creating and analyzing this cohort has implications for current health system transformations in Ontario. Our findings also offer insight to the health service needs of RH residents and, more broadly, the needs of older adults throughout the life course.

**Author Names:** Derek Manis, McMaster University; Ahmad Rahim, ICES McMaster; Michael Shi, McMaster University; Nathan Stall, Women's College Research Institute; University of Toronto; Richard Perez, ICES McMaster; Michael Campitelli, ICES; Susan Bronskill, ICES; Andrew Costa, McMaster University



# *Public health emergency declarations to the opioid crisis: a comparison of institutions, interests, and ideas in Ontario and British Columbia, Canada*

Mr. Derek Manis, McMaster University

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The opioid crisis is an important public health policy issue affecting all levels of government in Canada. British Columbia and Ontario continue to experience substantial morbidity and mortality attributed to chronic, problematic opioid use. British Columbia declared a public health emergency (PHE) in response to the opioid crisis; however, Ontario did not. We conducted a comparative policy analysis in each province that led to the decision to declare, or not to declare, a PHE.

**Approach:** Our analysis spans the 2016-2018 period, when opioid-related indicators rose by approximately 10% nationally. We retrieved news media pertaining to PHE declarations in response to the opioid crisis from the LexisNexis Academic database and grey literature (e.g., reports, government websites, provincial and national statistics, etc.) from Google web searches. We conducted an inductive content analysis of these sources to compare how institutions, interests, and ideas differ within each province to explain the variation in their respective policy decisions. Sources were manually screened and coded by the primary author and narratively synthesized.

**Results:** PHEs are most commonly declared in the context of devastating weather or infectious disease outbreaks. Legislation governing PHEs differed in each province, which affected policy options available to each government. British Columbia's PHE legislation is broad and open-ended, which permitted the government to take swift action. Conversely, Ontario's PHE legislation is narrow in scope, which limited available response options. Harm reduction is an important public health idea invoked to combat the opioid crisis. In British Columbia, this idea is threaded through province-wide public health efforts and activities; however, in Ontario, the emphasis on the idea of harm reduction does not have the same support by political actors, nor are strategies to implement harm reduction efforts as developed and coordinated.

**Conclusion:** Our analysis highlights the first instance of a PHE declaration for a mental health and addictions issue. Provincial differences pertaining to public health and emergency management legislation and ideas about harm reduction, including political support for these, explain how each province enacted different policy responses to the opioid crisis.

**Author Names:** Derek Manis, McMaster University; Andrew Costa, McMaster University; Julia Abelson, McMaster University

## *Finding the right fit for levers of change: A comparative case study of the mandated implementation of performance management system in Quebec*

Dr. Jean-Sebastien Marchand, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In 2015, the Quebec's Minister of Health and Social Services mandated province-wide implementation of a new performance management system (PMS). This PMS is based on "control rooms" and performance indicators, designed to evaluate organizational performance on an ongoing basis, and guide quality improvement efforts. These management tools are implemented at each level of governance. The aim of this presentation is to analyse the levers of change mobilised by managers in implementing PMS tools.

**Approach:** The research design involves comparative case study of the implementation of mandated PMS in three large regional health authorities in Quebec (between 10000 and 20000 employees; more than 1G\$ annual budget). Four level of analysis were considered: national, strategic, tactic and operational. Between 2017 and 2019, we carried non-participant observations of management meetings (n=32, 64 hours), semi-structured interviews with key stakeholders (n=31) and a review of documents. We based our analysis on the eight levers of change framework of Levesque and Sutherland (2017): cognitive, mimetic, formative, supportive, coercive, normative, structural and competitive.

**Results:** Our results show that the mobilisation of various levers of change for the implementation of PMS vary between stakeholders, levels of governance and healthcare organizations. While the Ministry and CEOs may rely on coercitive and competitive levers, the Departments of Quality and Performance tend to mobilise supportive and formative levers and healthcare managers tend to mobilise structural levers. The context of governance and implementation of performance indicators seem to encourage competition between stakeholders. We found that implementation at strategic levels relied more on mimetic and coercive levers, while formative and structural levers were favoured at tactic levels. Operational levels were more closely associated with cognitive and coercive levers. Furthermore, control rooms seems to act as a new, mimetic lever, especially at national and strategic levels.

**Conclusion:** To our knowledge, this study is the first one to provide empirical data to support the framework of Levesque and Sutherland (2017) on the levers of change. These results support the need to find the right fit between levers of change, levels of governance and stakeholders.

**Author Names:** Jean-Sebastien Marchand, Université de Sherbrooke; Mylaine Breton, Université de Sherbrooke; Olivier Saulpic, ESCP Europe

## *Healthcare Utilization Groups of Seniors with Incident Dementia: Cluster Analysis of Administrative Data*

Ms. Eva Margo-Dermer, Department of Family Medicine, McGill University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Seniors with dementia have higher healthcare utilization (HCU) than seniors without dementia. The individual healthcare needs of persons with dementia can be affected by a range of health and sociodemographic factors. This study aims better inform care planning and our understanding of HCU by people with dementia by 1) identifying HCU groups of persons with incident dementia and 2) describing the associations between HCU group membership and medication use, comorbidities and sociodemographic characteristics.

**Approach:** This retrospective cohort study is a secondary analysis of incident dementia patients identified using the Quebec Integrated Chronic Disease Surveillance System. Community-dwelling patients aged 65+ who were diagnosed with dementia between April 2015 and March 2016 were included. HCU groups were identified using latent class analysis of 6 dimensions of HCU (primary care, specialist, and emergency visits, hospital admissions, hospital readmissions, alternative levels of care), long-term care admissions and mortality in the year following diagnosis. HCU group characteristics (medication use, comorbidities, sociodemographic factors) will be assessed in depth to better understand factors associated with differential HCU by persons with dementia.

**Results:** 15 584 patients met inclusion criteria (39.4% men, mean age 81.63 (SD: 7.29)). 4 healthcare utilization groups were identified: primary care centric (36.4% of cohort), specialist centric (27.5%), high acute hospital users (23.6%) and long-term-care-destined (12.5%). Preliminary descriptive analyses show that the primary care centric group were the lowest benzodiazepine, antidepressant and antipsychotic users (27% versus 31% of cohort; 32% versus 38%; and 20% versus 27%, respectively), men were over-represented in the specialist centric group (49.5%), high acute hospital users had the highest mortality (25% versus 10%) and persons living in the largest urban area were over-represented in the long-term care destined group (35% versus 29%). Full descriptive analyses of sociodemographic and health characteristics corresponding to HCU group membership will be presented at CAHSR 2020.

**Conclusion:** The preliminary results of this study emphasize the variability in healthcare use -and variability in healthcare needs- among persons newly diagnosed with dementia. While recent dementia strategies have fostered improvements to care, future policy and interventions must prioritize equitable care that addresses barriers to appropriate and individualized dementia care.

**Author Names:** Eva Margo-Dermer, Department of Family Medicine, McGill University; Catherine Hudon, Université de Sherbrooke; Isabelle Vedel, McGill University

*Translating learnings gained during a community-based traineeship into primary care practice: a qualitative study exploring physicians' perceptions*

Madame Julie Massé, Faculté de sciences infirmières, Université Laval

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Literature identifies several ways in which an experience into a non-traditional clinical training environment might positively impact medical trainees (e.g., critical reflection, renewed vision of medicine, identity development). However, little is known about physicians' ability to transfer those learnings into medical practice afterwards. This study explores, from physicians' perspective, the concrete application into primary care practice of learnings gained from a traineeship within a community-based setting intended for patients experiencing social vulnerability in Montreal, Canada.

**Approach:** This qualitative exploratory research relies on 12 semi-structured interviews with physicians (n=10) and residents (n=2) who completed a medical traineeship into our research setting and were now practicing within a Canadian primary care organization. Voluntary and snowball sampling strategies were used. Interviews were aimed at collecting participants' perceptions and narratives of the applicability of the learning gained from their traineeship experience into practice. Furthermore, data collected from three key informants involved in traineeship management allowed data reported by physicians to be assessed for quality using triangulation methods. Qualitative content analysis was conducted following L'Écuyer's (1990) guidelines. NVivo software was used.

**Results:** Most of the participants aimed to apply the learnings gained from their traineeship experience. Participants mention learnings' application translates into a higher sensitivity to psychosocial factors that allows their approach to be better adapted to patients' needs while being less stigmatizing. Participants also mention sustained efforts to integrate non-hierarchical deep interdisciplinarity (as experienced during traineeship) into their daily practice. However, they report few formal mechanisms supporting these efforts. Barriers identified to the application of learnings are (1) health system's dominant philosophy focussing on curative objectives, volume of patients seen, budget efficiency and administrative reporting; and (2) local barriers related to clinical setting's organizational characteristics (e.g., culture, size, complexity), difficulties in accessing psychosocial resources, complexity and inflexibility of communication processes, and hyperspecialization of existing psychosocial resources.

**Conclusion:** This study contributes important knowledge concerning fundamental learnings' transfer from training to practice, and barriers to a medical practice transformation fostering access-to-care equity for people experiencing social vulnerability. It therefore deals with issues that are at the heart of public health's concerns in terms of health equity and social justice.

**Author Names:** Julie Massé, Faculté de sciences infirmières, Université Laval; Élisabeth Martin, Faculté des sciences infirmières, Université Laval; Sophie Dupéré, Faculté des sciences infirmière, Université Laval

## *Better continuity with a regular primary care physician improves outcomes following hospital discharge*

Dr. Maria Mathews, University of Western Ontario

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Following hospital discharge, continuity of care with a regular doctor is beneficial. We examined the impact of improving continuity of primary care on hospital readmission, emergency department use, and mortality among patients discharged from a general medical unit in the London Health Sciences Centre in 2015-2016.

**Approach:** Using linked health administrative databases, we examined the 1-year post-discharge outcomes of four groups based on their pre-admission primary care attachment: rostered patients who saw their regular doctor [Group 1], rostered patients who did not see their regular doctor [Group 2], un-rostered patient who saw a regular doctor [Group 3], and un-rostered patients who did not see a regular doctor [Group 4]. We further compared the outcomes of Group 2-4 patients who improved continuity of (moved to Group 1 or 3) following discharge, Group 2-4 patients who did not improve continuity of primary care, and Group 1 patients.

**Results:** Among the 4,845 study-eligible patients, there were 3,334 Group 1 patients, 469 Group 2 patients, 411 Group 3 patients, and 631 Group 4 patients. Depending on the outcome, between 15.5% and 21.5% of the 1,511 patients in Group 2-4 improved continuity of primary care during the follow-up period. Compared to Group 2-4 patients who did not improve continuity, a smaller proportion of Group 2-4 patients who improved continuity of care were re-hospitalized (34% versus 47%) or visited an emergency department (56% versus 69%); mortality was similar in both groups (<14% versus 15.5%). In Group 1, 48% were re-admitted to hospital, 69% visited an emergency department, and 19% died. Group 1 patients are older and have more chronic conditions than other groups.

**Conclusion:** This initial, descriptive study suggests that short-term improvements in continuity of primary care may improve health service utilization and outcomes of general medicine patients following hospital discharge. These findings, along with the mechanisms by which patients are able to improve continuity of care, warrant further study.

**Author Names:** Maria Mathews, University of Western Ontario; Jennifer Reid, ICES; Lucie Richard, Université de Montréal; Andrew Appleton, -; Jacqueline Torti, University of Western Ontario; Blayne Welk, -; Salimah Shariff, ICES Western; Mark Goldszmidt, University of Western Ontario

## *"It's better than alone": Impact of a community-based peer walking and rolling program*

Dr. Farah Mawani, MAP Centre for Urban Health Solutions, Unity Health Toronto

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** There is growing economic, political, social and cultural exclusion of immigrants and refugees across Canada. Building Roads Together is a community-based peer walking/rolling program designed to promote inclusion and reduce health inequities based on lived experience of exclusion, trauma and recovery; research evidence; and a needs assessment. The program was implemented and evaluated in Regent Park, Canada's first social housing development transforming to a mixed-income neighbourhood. This presentation shares BRT's innovative approach and evaluation findings.

**Approach:** BRT is innovative in its approach to program design, implementation, and evaluation, integrating an intersectionality theoretical framework, with embedded and peer research approaches. BRT was designed by a peer researcher, in collaboration with community-based agencies, while embedded in Regent Park. Forty-two peer walking group leaders were trained, and multiple walking groups mentored.

Graduate students in a participatory research methodologies seminar were trained to conduct a qualitative evaluation in collaboration with community members. They conducted, audio-recorded, and transcribed semi-structured in-depth interviews with diverse stakeholders (3 BRT staff members, 4 partners/collaborators, 2 developing partners, 6 peer walking group leaders, and 7 walkers).

**Results:** Evaluation findings from trained peer walking/rolling group leaders and walkers indicate that BRT reduces social isolation, and improves physical health, mental health, and leadership capacity. Program participants described BRT reducing social isolation by increasing their English language and communication skills, engagement in community events, and social interactions. Program participants described BRT improving their physical health by providing an accessible form of exercise that helped them lower blood pressure, manage symptoms of diabetes, and lose weight. Participants described BRT improving their mental health by providing peer support and relieving their stress. Participants stated that BRT built their leadership capacity by growing their confidence and enabling them to engage in community-based volunteer work, designing and leading other programs and initiatives, and political advocacy.

**Conclusion:** Based on the evaluation findings, a unique community-university-hospital partnership is leading the development of a multi-disciplinary, multi-sectoral implementation science team to plan, implement, and evaluate scaling Building Roads Together within Toronto, and other cities. Meaningful engagement of communities in planning, implementing and evaluating interventions increases their relevance, uptake, and impact.

**Author Names:** Farah Mawani, MAP Centre for Urban Health Solutions, Unity Health Toronto; Sarah Flicker, York University

## *Examining Value-Based Health Care in Emergency Department Processes*

Dr. Deirdre McCaughey, Cumming School of Medicine, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** This study explores how key stakeholders in Alberta understand value and value-based healthcare (VBHC) and explores the challenge of operationalizing VBHC in Alberta's emergency department settings. For the purposes of our stakeholder meeting, value was presented as the relationship between cost and outcomes (Porter, 2008) assessed by different stakeholder perspectives. The objective of the meeting was to explore and potentially develop a framework for implementing and measuring VBHC in the emergency department.

**Approach:** The study focused on generating discussion around VBHC in the emergency department and is thus exploratory. Stakeholder discussion centered on the following three core questions:

1. Who is responsible for implementing VBHC?
2. What outcomes are most important/relevant in an emergency department?
3. How can VBHC be operationalized and implemented in the emergency department to be reflective of the cost/outcome relationship that is suggestive of value?

Discussion of these questions took place within the context of a stakeholder meeting, wherein a VBHC overview was followed by facilitated breakout sessions. Each stakeholder was assigned to a breakout group, led by experienced facilitators.

**Results:** Key findings of these sessions showed that everyone plays a role in implementing VBHC. Further emphasis was placed on the importance of providing the proper type of patient-centered care. Also identified was the lack of clarity on factors that affect cost in the emergency department and who is impacted by these costs. Stakeholders determined that operationalizing VBHC remains a significant challenge and further innovation in this area is necessary. Stakeholders agreed that understanding healthcare costs and value is critical for all health system participants; though there was diversity in perspectives, and responsibility for implementing VBHC remained undetermined.

**Conclusion:** The study reaffirmed that VBHC is difficult to define, operationalize, and measure; therefore, more foundational work is needed to improve clarity around its concept within Alberta specifically, and in Canada generally. As a result, the necessity of developing an innovative and nationally-relevant performance measure framework for VBHC has been indicated.

**Author Names:** Deirdre McCaughey, Cumming School of Medicine, University of Calgary; Gwen McGhan, Faculty of Nursing, University of Calgary; Eddy Lang, Cumming School of Medicine, University of Calgary; Alberta Health Services; fiona clement, University of Calgary; Natalie Ludlow, University of Calgary; Patrick McLane, Alberta Health Services

## *Leadership and Safety Excellence: The Experience of Hospital Support Service Workers*

Dr. Deirdre McCaughey, Cumming School of Medicine, University of Calgary

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**Category:** Poster

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Occupational injury/illness in the healthcare sector rates among the highest of all industries. Specific to hospital support service workers (e.g. food & nutrition, environmental services), studies have shown that injury rates for these non-skilled workers tends to be among the highest of hospital personal yet there is a dearth of research investigating the safety climate of these workers. Therefore, the purpose of this study is to examine safety perceptions of support service workers (SSWs).

**Approach:** Study participants are from a hospital in the mid-west and are drawn from two support services departments: Food & Nutrition (FN) and Environmental Services (ES). Surveys were given to 353 employees from the two departments. Survey items were drawn from the Agency for Healthcare Research and Quality's (AHRQ) Survey of Patient Safety Culture and the United States Department of Health and Human Services' National Health Care Surveys. Employee, supervisor, and organizational safety items were adapted from the Survey of Patient Safety Culture to reflect employee safety perceptions. Supervisor support items were adapted from the National Health Care Surveys.

**Results:** Significant relationships in this study were found between: 1) supervisor and organizational safety leadership; and 2) employee safety perceptions/work unit ratings. Previous studies have shown that strong supervisory leadership and organizational commitment to safety are frequently related to more positive employee safety both in patient safety culture and employee safety climate. Strong safety leadership is typically a core facet of safe work environments and reduced adverse safety events. Significant relationships among: 1) organizational safety leadership; and work unit culture and 2) employee unit safety grade ratings has also been found in studies. Safety perceptions of SSWs in healthcare organizations cannot be overstated as injury rates for workers in ES & FN have been found to be among the highest rates of hospital employees.

**Conclusion:** Antecedent factors that promote a positive safety climate among healthcare providers functions in a similar manner for SSWs. These findings contribute to a better understanding of occupational safety of this under-studied work group; developing a strong safety climate for SSWs is similar to that needed for healthcare providers.

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# *The Relationship between Nursing Home Organizational Structure and the Production of Multidimensional Quality and Volume of Care: Evidence from Ontario, Canada*

Ms. Meghan McMahon, Institute of Health Policy, Management and Evaluation, University of Toronto

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** To analyze the relationship between nursing home (NH) organizational structure (ownership type and chain status) and the quality and volume of care in Ontario, Canada. NHs pursue multiple dimensions of quality simultaneously, along with other performance objectives like volume of care. Conventional approaches treat each quality indicator (QI) separately and independently from the others, as though a NH pursues it in isolation of decisions about other QIs and other performance objectives.

**Approach:** A seemingly unrelated regression (SUR) framework is used to estimate the relationship between NH organizational structure and the simultaneous production of 16 QIs (e.g., falls, pressure ulcers, incontinence, ED visits) and volume of care (number of resident days of care per year). The SUR estimation uses full-information maximum likelihood, augmented with Mundlak group means to control for unobserved, time-invariant heterogeneity.

The study population is a panel of all publicly-funded and licensed NHs in Ontario – Canada's most populous province – from 2010 to 2012 (609 NHs, and 1,822 facility-year observations).

**Results:** Minimal statistically significant ownership and chain-related differences in quality are observed, providing suggestive evidence that quality is reasonably consistent across NH ownership and chain types. Chains produce significantly higher volume of care than non-chains. Statistically significant error correlations are observed between different QIs but not between quality and volume, which suggests there are complementary relationships and potential trade-offs involved in the pursuit of multidimensional quality but no trade-offs in the dual pursuit of quality and volume.

**Conclusion:** This study examined a perennial question of whether quality of care differs between NH organizational structures, but in an understudied setting with a similar level of FP delivery to the US: Ontario, Canada. Limited evidence of variation in quality according to organizational structure was found.

**Author Names:** Meghan McMahon, Institute of Health Policy, Management and Evaluation, University of Toronto; Audrey Laporte, University of Toronto; Walter Wodchis, University of Toronto; Colleen Flood, University of Ottawa Centre for Health Law Policy & Ethics; Peter Coyte, University of Toronto

## *Using the Theory of Planned Behaviour to understand cancer survivors' decisions for using cannabis as a complementary therapy*

Dr. Helen McTaggart-Cowan, Faculty of Health Science, Simon Fraser University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Cancer

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Cannabis was legalized in Canada in October 2018. Prior to legalization, medical documents enabled patients to access cannabis through licensed producers. Now, without a separate regulation for cannabis provision, it is unclear whether individuals' decisions to use cannabis to alleviate health symptoms have been affected. In this study, we aim to understand the factors that influence cancer survivors' decisions to use or not use cannabis as a complementary therapy.

**Approach:** Using social media to recruit cancer survivors, individuals completed an online eligibility survey to express their willingness to participate in the study. Interested individuals were purposively sampled to ensure maximization in terms of age, sex, and province of residence. Constructs of the Theory of Planned Behaviour (TPB) (e.g., attitudes, subjective norms, and perceived behavioural control) were explored during the interviews as participants described what influenced their decisions to use cannabis to manage their symptoms. All interviews were digitally recorded, transcribed, coded and analyzed to align with the TPB structure to determine whether survivors' views of using cannabis converged and diverged.

**Results:** Interviews were conducted with 33 cancer survivors; of which, 61% were females and 52% reported using cannabis. Individuals reporting favourable attitudes believed that cannabis managed their symptoms, was a more natural alternative, and reduced their number of prescription drugs. Subjective norms, such as support from physicians and validation from family and friends, strongly affected individuals' intention and behaviour related to cannabis use. Regarding behavioural control, individuals desired choice about where to access cannabis and believed that safer products can be accessed after non-medical cannabis legalization. Individuals who opted not to use cannabis raised concerns about the lack of scientific data and possible dependency issues. They felt their medical practitioner's disapproval was a huge barrier to considering cannabis use.

**Conclusion:** The findings revealed that legalization made using cannabis safer and easier to access for a few cancer survivors. However, the absence of efficacy evidence and medical practitioners' censure of cannabis use are barriers for cancer survivors considering cannabis to manage symptoms.

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## *Remote Presence Technology improves access to physician services and enhances continuity of care in a northern Indigenous community*

Dr. Ivar Mendez, University of Saskatchewan and Saskatoon Health Authority

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Indigenous Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The Hatchet Lake First Nation is a member nation of the Prince Albert Grand Council. It is situated on the southern shore of Wollaston Lake in northern Saskatchewan and is considered one of the most isolated communities in the province. Wollaston Lake is a medically underserved community. Historically, access to physician services has been limited to fly-in doctors based in La Ronge. Issues of inclement weather and staffing shortages result in many clinics being cancelled.

**Approach:** To address a period of a critical shortage of physician services, a portable remote presence technology (RPT) device was placed in the community, and a family physician based in Saskatoon provided regular weekly remote clinics for the community. In addition, the physician travelled to the community periodically to provide in-person clinics. The initiative was a success and the decision was made to continue with the RPT clinics to supplement the existing services offered by the La Ronge Medical Group (LRMG).

**Results:** For the study of the RPT initiative, between April 2018 and March 2019, there were 119 clinics provided to the community, and the total number of patients seen was 1100. Of the 100 clinics/year LRMG is contracted for, 76 clinics were provided by 22 different physicians, and 632 patients were seen, averaging 3.5 clinics/physicians/year and 28.7 patients/physician/year. In contrast, the sole RPT physician saw 468 patients (43% of total patients) during 43 clinics (36% of total clinics), including 35 RPT clinics and eight clinics in-person. When travelling to the community, the RPT physician stayed an average of 3 to 5 days to provide care, build relationships with the community, and support the nursing team by offering additional training.

**Conclusion:** Access to care is significantly enhanced with RPT clinics. We have found the hybrid model of combining weekly remote clinics with regular in-person visits fosters positive relationships and optimizes continuity of care. A separate qualitative study supports these findings, confirming community acceptability of this RPT model of care is high.

**Author Names:** Ivar Mendez, University of Saskatchewan and Saskatoon Health Authority; Rachel Johnson, University of Saskatchewan and Northern Medical Services; Veronica McKinney, Northern Medical Services; James Purnell, Department of Academic Family Medicine and Northern Medical Services

## *Predicting Psychiatric Length-of-Stay: The Impact of Demographic, Clinical, and Provider-Level Factors*

Mr. David Miller, University of New Brunswick

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Health care policy has increasingly emphasized a need to reduce overall length-of-stay (LOS) in inpatient psychiatric care, which has resulted in an overall decrease in average LOS by as much as 63% across Canada and the US in the decade preceding 2010. However, because LOS is complexly linked with treatment decisions, disorder severity, and treatment outcomes, it is important to identify key predictors of LOS.

**Approach:** Study participants consisted of youth 10 to 25 years of age admitted for psychiatric conditions to a New Brunswick hospital between April 1, 2003 and March 31, 2014 (N = 59,617). Utilization of longitudinal administrative data allowed for an examination of LOS as potentially affected by policy shifts over time.

**Results:** The study used a retrospective cohort design examining secondary data from the New Brunswick Discharge Abstract Database, a provincial administrative dataset comprising all inpatient admissions across provincial hospitals. Hierarchical regression analysis was used to determine the relative contributions of factors to psychiatric LOS. Although results indicated hospital-level factors account for the greatest degree of variability in LOS, individual-level characteristics (i.e., receiving inpatient care in a preferred/ non-preferred language; rural/urban community setting; socioeconomic status) accounted for almost as much variability.

**Conclusion:** Our findings suggest a need to recognize the role of individual-level predictors on LOS when considering hospital policies and treatment protocols. Our findings are particularly relevant to areas with multifaceted barriers to accessing care at the individual level—barriers such as multilingual service need and care delivery in predominantly under-served areas.

**Author Names:** David Miller, University of New Brunswick; Scott Ronis, University of New Brunswick; Amanda Slaunwhite, BCCDC

## *Provincial Mental Health Services: Youth Perspectives on Access to a System Not Their Own*

Mr. David Miller, University of New Brunswick

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Although approximately one in five Canadian youth have a serious mental illness, only 20% are able to access treatment, with limited access driven heavily by constraints in the appropriateness, accessibility, and availability of services. Moreover, up to 65% of youth receiving psychiatric treatment require repeat or ongoing services, further exacerbating issues surrounding accessing support and emphasizing the importance of service efficacy.

**Approach:** This study utilized semi-structured qualitative interviews collected as part of the Atlantic Canada Children's Effective Service Strategies Mental Health project (ACCESS-MH). Interviews were analyzed using the Psycho-social Ethnography of the Commonplace (P-SEC) methodology, bringing to the forefront the struggle of marginalized individuals (i.e., youth in need of psychiatric services). This methodology allowed us to frame our study around the assumption that marginalized youth face complications in accessing care due to factors dictated by the care systems in which they are embedded. The unique perspectives of these youth make their perceptions of service access influential and informative.

**Results:** Notable results were organized within the P-SEC methodology by identifying specific factors or practices dictated by the care system that complicated the lives of the youth, called "Organizational Moments (OMs)." Common OMs identified by participants surrounded a tendency to identify as "less-sick" based on received treatment, frustration with limited "in-routes" for care due to limited service availability, and inadequate hospital admission practices that resulted in inappropriate levels of care.

**Conclusion:** The findings of this study provide a more comprehensive contextual perspective of the barriers youth face when seeking support services and can be generalized to many service areas. Results could affect multiple levels of care delivery, from informing service provider best practices to influencing policy decisions regarding supportive services.

**Author Names:** David Miller, University of New Brunswick; Scott Ronis, University of New Brunswick

## *Trends in Inequalities in Mental Health Disorders in Urban Canadian Provinces and Cities*

Ms. Sharalynn Missiuna, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Canadians do not all enjoy equal levels of health. The presence of income-related health inequalities have been well established in Canada, but there is a lack of research surrounding consistent reporting and comparison of inequalities in Canada's largest cities, particularly concerning mental health. This study addresses the first step leading to an increasingly equal society; reporting the prevalence and inequalities in mental health outcomes at the city, provincial and national levels over time.

**Approach:** Self-reported Poor Mental Health (PMH), Life Stress (LS), Mood Disorder (MD), and Anxiety Disorder (AD) variables were taken from the Canadian Community Health Survey (2001-2015). Outcomes were combined into three 5-year periods and linked to neighbourhood income from the Canadian Census.

Analysis occurred in three parts: First, prevalence rates were established at the neighbourhood to national level. Second, absolute (Disparity Rate Ratio), relative (Disparity Rate Difference), and overall (Concentration Index) inequalities were calculated at the city, provincial and national levels. Finally, the prevalence rates and inequality measures were compared between geographies and within the same geography over time.

**Results:** At the national level, the prevalence 2011-2015 of PMH (27.9%), MD (7.3%) and AD (6.8%) had all significantly increased from 2001-2005. Relative, absolute and overall inequalities were present in 2001-2005 and were maintained or worsened over time.

Rates for PHM, MD and AD were more volatile in smaller cities compared to larger cities. There was little consistency of prevalence rates between cities of similar geography or population. Relative, absolute and overall income inequalities were present for nearly all cities. No one city could report a lack of inequality or constantly reported the highest level of inequalities.

There was no income-related health inequality found for Life Stress and the prevalence rate at the national level decreased over the time period studied.

**Conclusion:** The large disparity in results between cities in similar geographical areas and with different measures of mental health highlight the necessity for increased mental disorder-specific data and for city-level analysis of inequalities. The next steps in moving towards reducing inequalities involve deconstructing the health inequalities as well as continued monitoring.

**Author Names:** Sharalynn Missiuna, University of Saskatchewan; Charles Plante, University of Saskatchewan; Cordell Neudorf, Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan; Punam Pahwa, University of Saskatchewan

## *Prenatal care adequacy among women with disabilities in Ontario: A population-based cohort study*

Ms. Fareha Nishat, University of Toronto

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Opportunities for childbearing have increased for women with disabilities. However, they have elevated risk for pregnancy complications. Data in the general population suggest that delayed or inadequate prenatal care increases the risk of pregnancy complications. Preliminary research suggests women with disabilities experience barriers to accessing prenatal care. Our objective is to examine the prenatal care adequacy of women with physical, sensory, and intellectual/developmental disabilities, compared to women without these disabilities.

**Approach:** A population-based cohort study is being conducted using health administrative data in Ontario, Canada, including 15 to 49-year-old women with physical (n=134,536), sensory (n=41,209), intellectual/developmental (n=2,021), and multiple (n=8,001) disabilities and women without disabilities (n=1,499,703) with singleton obstetrical deliveries in 2003-2017. Prenatal care adequacy is measured using the Revised-Graduated Prenatal Care Utilization Index and classified as inadequate, adequate, or intensive care based on timing of prenatal care initiation and number of visits. Multivariable nominal logistic regression will be used to analyze the association between disability status and prenatal care adequacy, controlling for other social and health characteristics.

**Results:** Results are forthcoming. Frequencies and percentages will describe the cohort of women with and without disabilities as well as their prenatal care adequacy (inadequate, adequate, or intensive), timing of initiation (first, second, or third trimester), and number of visits (less than recommended, recommended, or more than recommended). We hypothesize that nominal logistic regression models will demonstrate disparities in prenatal care adequacy among women with and without disabilities, with the greatest disparities among women with intellectual/developmental and multiple disabilities. We further hypothesize that disparities will be somewhat attenuated after controlling for other social and health characteristics. In secondary analyses, nominal logistic regression models will be repeated for timing of initiation and number of care visits separately, to further understand patterns of prenatal care adequacy.

**Conclusion:** The results will provide insight into disparities in prenatal care use among women with and without disabilities. This study is important because women with disabilities have risk factors for poor pregnancy outcomes that are manageable if identified early. Addressing barriers to prenatal care will facilitate development of effective practice paradigms.

**Author Names:** Fareha Nishat, University of Toronto; Hilary Brown, University of Toronto; Lesley Tarasoff, Interdisciplinary Centre for Health & Society; Yona Lunskey, Centre for Addiction and Mental Health

## *The Patients' Perspective Differences across Patient Populations to Inform Integration Efforts*

Dr. Allie Peckham, Arizona State University

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Patient-centered care is a stated goal of health system leaders in Canada. While the themes required for patient-centered care are generally understood, little is known about the needs and preferences of specific patient and their caregiver groups. This study addresses the following research question: how do the needs, values, preferences, and experiences of patients and caregivers differ across various health and life stages?

**Approach:** A scoping review of Canadian literature was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines, as well as Arksey and O'Malley's stepwise approach to conducting a scoping review. A total of 12,341 studies were pulled from four databases (Medline, CINAHL, Embase and PsycInfo). 7,763 articles were removed following deduplication. 4,127 studies were excluded following a title/abstract screening as they did not meet inclusion criteria. Full-text screening of the remaining 451 studies yielded 193 articles included for analysis.

**Results:** Two categories were used to categorize patients into 5 health stages and 6 life stages. Five broad themes emerged; 1) personalized care; 2) how to navigate the health system, including information on resources available and; 3) choice in treatment, care setting and/or care provider; 4) holistic care and non-medical supports to overcome barriers to accessing care; and 5) care continuity (including care coordination). However, across the different health and life stages, these five broad themes were expressed differently and with different levels of importance.

**Conclusion:** The findings of this study can be used to inform patient-centered integrated care efforts on how the health system could be shaped or reshaped for a particular patient group. Specifically, these findings could be used to inform integration efforts on: planning, patient engagement, quality improvement initiatives, and targeting of investments.

**Author Names:** Allie Peckham, Arizona State University; Husayn Marani, Women's College Hospital; Jim Wright, OMA; Dara Laxer, Ontario Medical Association; Sara Allin, University of Toronto; Reham Abdelhalim, Institute of Health Policy, Management and Evaluation, University of Toronto; Gregory Marchildon, University of Toronto



## *Physician perspectives on tapering biologics in Juvenile Idiopathic Arthritis: A qualitative analysis*

Ms. Tram Pham, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Pharmaceutical Policy

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Biologics are highly effective in improving clinical outcomes for children with Juvenile Idiopathic Arthritis (JIA), but biologics also have risks, side-effects, and are costly. There is currently limited clinical guidance for how physicians should taper biologics, and few studies examine how physicians make tapering decisions in JIA. The study objectives are to: 1) examine physician approaches to tapering biologics; and 2) describe patient and contextual characteristics that physicians consider important in their decision-making.

**Approach:** Pediatric rheumatologists from across Canada were recruited to participate in individual interviews. Two researchers (TP and GC) facilitated the 30-60 minute audio-recorded interviews using a semi-structured interview guide. Interviews were conducted until data saturation was achieved (with five interviews). Interview recordings were transcribed verbatim and analyzed independently by two researchers (TP and PH). A thematic content analysis was conducted using NVivo 12. Initial codes were organized into themes and subthemes using an iterative process. Themes were further refined through discussion with the study team.

**Results:** Tapering approaches among physicians differed with some preferring to stop biologics immediately, while others tapered by reducing dose and/or increasing the dose interval over time. The time a patient spent in remission was identified as important to the taper decision, but the length varied from 6 months to 2 years. All physicians emphasized shared decision-making. Patient and contextual characteristics identified as important in the decision to taper biologics included: history of joint damage or erosive disease, JIA subtype, presence of comorbidities, patient and/or parent willingness, continuity of care, patient age, and accessibility of biologics (e.g. funding challenges for restarting biologics). Other considerations included remission duration, how challenging it had been to achieve remission, any history of uveitis and flares, and spine involvement.

**Conclusion:** Our study identified variations in physician approaches to biologic tapering, and patient and contextual characteristics that are important in decision-making. Further research is required to understand the variation in tapering practice, the relative importance of the patient characteristics identified, as well as whether approaches to tapering align with patient preferences.

**Author Names:** Tram Pham, University of Calgary ; Gillian Currie, University of Calgary ; Marinka Twilt , Department of Pediatrics, Alberta Children's Hospital ; Maarten IJzerman, University of Twente ; Michelle Kip, University of Twente; Pauline M Hull, University of Calgary ; Glen Hazlewood, University of Calgary; Susanne Benseler, Department of Pediatrics, Alberta Children's Hospital; Deborah A Marshall, University of Calgary

## *Working with the International Classification of Health Interventions (ICHI) to Develop an Online Survey Tool for Capturing Local Public Health Programming in Canada*

Dr. Charles Plante, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** The advancement of public health systems and services research in Canada has historically been hindered by a lack of comparable data on local programming. In 2019, the Urban Public Health Network (UPHN), which consists of the Chief MOH/MHO responsible for Canada's largest cities, supported the development of a new online survey tool for Canada based on the US National Profile of Local Health Departments (NPLHD).

**Approach:** One key challenge that was encountered in the development of the survey tool was systematically identifying and differentiating different kinds of public health programming throughout the country. A simplified version of the World Health Organization's International Classification of Health Interventions (ICHI) was used to meet this challenge. An integrated knowledge translation approach which engaged the UPHN membership was used to guide the survey development. The work was also informed by a review of the grey literature on health public health function in Canada.

**Results:** ICHI classifies more than 7,000 health interventions ranging from primary care to public health. A complete implementation of the system in our online survey was impractical. Nonetheless, ICHI helpfully clarified the difference between the action and target of public health interventions. Unfortunately, ICHI is not currently effective at capturing interventions targeting health equity. Also, its nesting structure does not reflect how public health tends to be organized.

**Conclusion:** This marked the first time ICHI has been used for public health systems and services research. ICHI could potentially offer a fine-grained and flexible system for classifying public health interventions. However, more work is needed to ensure the it more accurately reflects the priorities and organization of public health practice.

**Author Names:** Charles Plante, University of Saskatchewan; Navi Sandhu, York University; Cordell Neudorf, Community Health and Epidemiology, College of Medicine, University of Saskatchewan

**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** The Canadian Institutes of Health Research Strategy for Patient-Oriented Research fosters innovative evidence-based approaches to managing health issues by including patients as equal members. The purpose of this research was to foster patient engagement by creating a forum for people with lived experience dealing with complex mental health and addiction (MHA) issues to share their real-world challenges, as well as potential solutions to these challenges.

**Approach:** Over one year we built connections with people and organizations in the community of Saskatoon. We wanted to learn about available MHA services, as well as make the community aware of our research. We sought to connect with patients, families, and service providers so we could learn from people who live or work with mental health problems every day. We invited them to join an advisory group and, at years end, held a face-to-face half day meeting to capture their knowledge and insights through facilitated discussion.

**Results:** The advisory group identified the most common barriers experienced by patients and family members related to MHA services, service providers, and government policies. The group offered multiple concrete solutions for each barrier. They prioritized the following as the most important to improve health services for MHA issues: (1) improve emergency care of people with acute psychiatric illness, (2) co-locate services to reduce transportation and physical challenges, (3) enhance transitional and supportive care services, (4) improve integration of MHA care into the primary health setting, and (5) increase the public's awareness and understanding of MHA issues and available services. Learnings were disseminated to the public, clinicians, researchers, managers, and policy makers via the "Hearing the Patient Voice" report.

**Conclusion:** The advisory group identified common gaps in, and barriers to, MHA services and suggested concrete solutions to mitigate or remove them. People with lived experience have insights that researchers and policy makers do not. They should be included as team members to improve the quality and usefulness of the research.

**Author Names:** Jacqueline Quail, Health Quality Council; Joelle Schaefer, Saskatchewan Prevention Institute; Margaret Baker, Saskatchewan Ministry of Health; Nazeem Muhajarine, University of Saskatchewan; Cordell Neudorf, Community Health and Epidemiology, College of Medicine, University of Saskatchewan

## *Understanding Regional Site Transfer: Perceptions of HealthCare Professionals*

Ms. Alam Randhawa, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Rural families face several barriers to access to health care including traveling long distances to access the sub-specialty care present in urban tertiary centres. Increasing transfers of pediatric patients from tertiary to regional sites with care supported by the tertiary site could enable patients and families to receive care closer to home. This qualitative study sought to understand tertiary site health care professionals' perceptions of tertiary to regional inpatient transfer.

**Approach:** This study was done in order to aid in the development of an innovative telemedicine pilot that would connect sub-specialists at tertiary sites to rural medical site teams. While telemedicine has been widely and effectively used in other parts of the world, this approach has been less utilized in Canada, especially in the context of rural inpatient care. The pilot will enhance teamwork and knowledge sharing between different sites and allow for rural patients to receive care closer to home in regional sites rather than traveling long distances to seek care in urban centres, promoting health equity.

**Results:** The main barriers of pediatric transfer to rural sites include a lack of standardized transfer guidelines, limited understanding of rural regional site resources and mistrust between medical teams that prohibit patient transfer. The most likely pediatric patients that could be transferred back to rural site include: clearly diagnosed, single body system patients. Healthcare professionals who had previous experience working in regional sites were more comfortable with transfer to regional sites than healthcare professionals with no experience working in regional sites. Transfer to regional sites could be increased by improving both communication and trust between medical teams as well as correcting misinformation about regional inpatient pediatric sites.

**Conclusion:** Health care professionals across the entire continuum of patient care identified the need for shared patient transfer guidelines and recognize the need to find solutions that would increase patient transfer. However, the biggest barrier to regional transfer is lack of trust between rural and urban medical teams.

**Author Names:** Alam Randhawa, University of Calgary ; J.A Michelle Bailey , University of Calgary ; Sumedh Bele, University of Calgary

## *Scaling up social prescribing: lessons from Ontario Community Health Centres*

Dr. Jennifer Rayner, Association of Ontario Health Centres

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Social prescribing is a structured way of primary care providers referring/connecting people who are experiencing loneliness, isolation, or other social risk factors with non-medical resources or supports in their local community, where these issues can be better addressed. This presentation will discuss findings from an Ontario Community Health Centre pilot project.

**Approach:** Developmental evaluation design emphasizing process and contextual factors and outcomes using quantitative data from electronic medical record and surveys/asset maps as well as a series of focus groups with providers and patients. Will discuss context of where pilot is happening, intervention components, processes of success and outcomes. The purpose of evaluation is to study the implementation social prescribing and to identify and understand key factors enabling their success, and assess impact on providers and the healthcare system. More specifically what worked, with whom and within what context/circumstances to ensure future implementation success will be highlighted.

**Results:** Preliminary results are suggesting increased connections, sense of belonging and improvement in mental health and wellbeing. In addition, primary care providers are referring more often to non-clinical services and there is greater integration between health promotion and clinical teams.

**Conclusion:** Social prescribing has been implemented in the UK and is now being pilot tested in Ontario, Canada. Preliminary results are indicating positive outcomes for both patients and primary care providers.

**Author Names:** Jennifer Rayner, Association of Ontario Health Centres

*Changing Boundary between Internal and External Environments of Canadian Patient-Oriented Research: conceptualization and implementation in cancer clinical trials.*

Dr. Fedir Razumenko, University of Calgary

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Cancer

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The CIHR pan-Canadian Strategy for Patient-Oriented Research (SPOR) emerged in 2011 with a vision to enhance the healthcare experience and improve health outcomes. Although the SPOR has attempted to integrate patient-oriented research into the healthcare system for almost a decade, healthcare policymakers and researchers have continued to question the validity and assessment of its implementation. What are the historical conditions of this SPOR environment and why its consequences matter at present?

**Approach:** Exploring developments in neurooncological cooperative clinical trials over the 2000s, which foreshadowed the advent of SPOR, we have the objective to demonstrate how and why a cultural shift to clinical investigation that became more patient-centered was made. We use a participatory classical grounded theory method with interactive data/analysis cycles to ensure that data are adequately interrogated and lead to meaningful results. Data collection and analysis continue until findings are coherent and consistent with theory-based evaluations. This approach is particularly useful in novel situations of patient engagement research and when understanding of social organization and clinical experience intersect.

**Results:** The project's main finding is that the evolving ideas of patient-oriented research have emerged in the initiatives of the very clinical investigators facing a growing institutional oversight. A popular claim that the SPOR has originated primarily in moral and political arguments has proved unsubstantiated. By focusing on the development and implementation of select neurooncological clinical trials we demonstrate how ethical protocols have often been created in the clinic and modified through interactions of the research team with patient participants, and members of the institutional ethics committees. This project, therefore, grounds Canada's Strategy for Patient-Oriented Research in historical evidence. Moreover, a contemporary paradigm of Canadian health research in oncology have potential applications for the engagement of patients at the planning stage of clinical trials.

**Conclusion:** Through analyzing select models of cancer clinical investigation, we provide evidence to enhance the effectiveness of SPOR. It is feasible to gradually optimize the Canadian health delivery system by informing stakeholders in health services of possible pathways to improve the functionality of a patient-oriented model of clinical investigation.

**Author Names:** Fedir Razumenko, University of Calgary

## *Long Term Effects of Housing First for Homeless People with Mental Illness on Costs and Housing Stability*

Ms. Hannah Rochon, Douglas Research Centre

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Homelessness has been expanding in Canada and internationally. It significantly increases mortality and thus is a public health concern. Housing First (HF), an approach that involves providing immediate access to permanent housing and individualized support services, is a key component of strategies to end homelessness. The objective of this project was to develop a simulation model to project its effects on costs, from a societal perspective, and housing stability, over a 10-year horizon.

**Approach:** A novel Excel-based platform, discretely integrated condition event (DICE), was used to build a Markov simulation model. Cost and outcome data from 469 individuals in the Montreal At Home/Chez Soi randomized control trial were used. Based on need level, homelessness history, and intervention group, individuals were divided into 8 subgroups. 10 possible housing states such as street, shelters, psychiatric hospitalization, and prison, were defined. Daily transition probabilities between states were calculated by subgroup. Costs for healthcare, social and justice services, and income were calculated for each housing state using generalized least squares regression.

**Results:** Analyses are still underway, but are expected to be completed by February 2020. Our aim is to describe how the incremental cost per additional day of stable housing (compared to treatment as usual) changes over a 10-year horizon, and to estimate how the distribution of individuals in each of the 10 housing states changes over time. Subgroup differences will be investigated to determine how need level and homelessness history affect incremental costs and days of stable housing. Extensive sensitivity analyses are being conducted.

**Conclusion:** Results should help clarify the potential long-term economic benefits of implementation of HF programs. Additional evidence on the longer-term costs and impacts of Housing First programs will aid in further contributing to its dissemination.

**Author Names:** Hannah Rochon, Douglas Research Centre

## *COPD Case identification in New Brunswick*

Mr. Kyle Rogers, New Brunswick Institute for Research, Data, and Training

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** The Canadian chronic disease surveillance system (CCDSS) estimates that as of 2016, 57,000 New Brunswickers over 35 had Chronic Obstructive Pulmonary Disorder (COPD). Conversely, Statistics Canada surveys placed the count at 24,800. This discrepancy highlights how methodology affects metrics used to plan health promotion and healthcare provision. In New Brunswick, another methodology exists—province-wide spirometry data. This project aims to compare spirometry results against the CCDSS methodology to appraise the efficacy of both approaches.

**Approach:** The project will access administrative data available at NB-IRDT, and utilize pseudonymized micro data associated with spirometry testing and the CCDSS COPD algorithm. We will apply the Global Initiative for Chronic Obstructive Lung Disease (GOLD) clinical criteria to spirometry data to determine if individuals meet the clinical criteria for COPD, and aggregate these cases to develop incidence and prevalence estimates for New Brunswick for comparison against the CCDSS estimates. Finally, we will link the spirometry and CCDSS microdata to create tables enumerating instances when a physician diagnosis (CCDSS) is present without clinical criteria information (spirometry), and vice versa.

**Results:** Previous research suggests that surveys involving spirometry testing estimate higher prevalence of COPD than self-report measures. Additionally, anecdotal evidence from consultation with health professionals in New Brunswick suggest that some individuals receive COPD diagnoses without having a spirometry test administered. As such, we suspect that spirometry related prevalence and incidence counts will fall between the floor established by StatsCan self-report measures (24,800 prevalent cases in 2016), and the ceiling established by the CCDSS administrative data algorithms (57,000 prevalent cases in 2016). If we can find empirical evidence to support anecdotal claims of COPD diagnoses that don't meet the clinical criteria for diagnosing COPD, or lack a spirometry test, then the standard operating procedures regarding COPD in New Brunswick may need reviewing.

**Conclusion:** The province-wide database of spirometry testing in New Brunswick provides myriad new avenues for research. One of these avenues is to validate existing COPD case identification methodologies to develop better prevalence and incidence estimations. Doing so will provide more accurate information for policy makers who design New Brunswick's health.

**Author Names:** Kyle Rogers, New Brunswick Institute for Research, Data, and Training; Ted McDonald, University of New Brunswick



## *Evaluation of the Rare Blood Bleeding Disorder Outreach Program*

Ms. Mahnoush Rostami, Alberta Health Services

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The Alberta Rare Blood and Bleeding Disorders (RBBD) Program located in Calgary conducted a demonstration outreach program to improve care and access. The primary focus was to increase adherence to treatment and appointment for patients with bleeding disorders. The RBBD clinical team visited four outreach clinics between September 2018 and March 2020. Evidence shows that outreach programs provide the opportunity for face-to-face interaction, and knowledge transfer to improve patient-centred care.

**Approach:** We used a mixed-methods approach to explore the effectiveness of the outreach program. We asked patients of the outreach clinics to complete a survey and participate in interviews to determine their perceptions and experience with the outreach services. We conducted interviews with staff to learn about the potential for the future sustainability. We also used structured observations to learn about the process time and quality of care. In addition, we observed patient-provider interactions in the Calgary clinic for comparison. We are in the process of accessing administrative data and patient charts to determine the potential impact on healthcare service utilization.

**Results:** Preliminary findings from observation data suggest that the overall appointment time (including wait and staff time) was not significantly different between the outreach and Calgary clinic. Appointment adherence was higher for the outreach clinics than the Calgary clinic. Findings from qualitative interviews suggest that the outreach program greatly reduced the cost and travel time for the patients and family members. The program was also perceived to be more convenient as they did not have to take time off work, find childcare, or travel to attend the Calgary clinic. Seventy percent of the patients was fully satisfied with the program. Increasing public awareness, engaging local staff, securing funding to support the program, and addressing some logistic difficulties were suggested for the future sustainability of the program.

**Conclusion:** We cannot make a conclusion on the feasibility of the outreach program yet given the lack of or changing information along the line. The preliminary findings indicate the potential of the program in increasing patient accessibility by addressing barriers. Impact on healthcare utilization and cost are yet to be determined.

**Author Names:** Mahnoush Rostami, Alberta Health Services; Mubashir Arain, ; Venus Chiu, Alberta Health Services; Dawn Goodyear, University of Calgary; Man-Chiu Poon, University of Calgary

## *Competencies for Registered Nurses in Primary Care in Canada: A Delphi Study*

Ms. Dana Ryan, Memorial University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Registered Nurses (RNs) in primary care can offer solutions to many issues facing Canada's healthcare systems by improving access, reducing costs, and promoting higher quality care. Through the development of a set of national competencies, this project aims to understand and support the integration and optimization of the role of RNs in primary care.

**Approach:** An initial draft of competencies was guided by international literature, a panel of key informants, and competencies of related practice areas. Canadian nurses with knowledge and expertise in primary care nursing were identified and asked to participate in a Delphi survey process. Using an online survey platform, participants rated the importance of each competency statement using a 6-point Likert scale (1=not important at all; 6=extremely important) and offered written feedback/suggestions. Statements that did not reach consensus ( $\geq 80\%$  agreement or mean  $\geq 5.0$ ) were modified and sent to participants for a second (final) Delphi round.

**Results:** The first survey was completed by 63% (n=86/137) of participants (April-May 2019) and 84% (n=72/86) of first-round participants completed the second survey (June-August 2019). Most statements (n=45) achieved agreement after the first survey; one statement was dropped and two were combined. The finalized list consists of 47 statements across 6 domains (Professionalism; Clinical Practice; Communication; Collaboration and Partnership; Quality Assurance, Evaluation and Research; Leadership). Results will be broadly disseminated through the distribution of a national report and related publications, and through other knowledge translation activities (presentations, webinars, etc.). Next steps involve conducting two cross-sectional surveys with program Deans/Directors and front-line primary care RNs to assess integration of competencies within Canadian nursing curricula and performance/learning needs of RNs in primary care relative to these competencies.

**Conclusion:** National competencies for RNs in primary care will contribute to the understanding of the role, improve inter-professional team functioning, and guide professional practice. The second phase of this project will guide nursing curricula across Canada and identify gaps in nursing education and learning needs of RNs in primary care.

**Author Names:** Julia Lukewich, Memorial University; Michelle Allard, Family Medical Centre; Lisa Ashley, na; Kris Aubrey-Bassler, Memorial University; Denise Bryant-Lukosius, McMaster University; Treena Klassen, Palliser Primary Care Network; Tanya Magee, Registered Nurses Professional Development Centre; Ruth Martin-Misener, Dalhousie University; Maria Mathews, University of Western Ontario; Nancy Murray, McMaster University; Marie-Eve Poitras, Département de médecine de famille, Université de Sherbrooke; Josette Rousell, Canadian Nurses Association; Dana Ryan, Memorial University; Ruth Schofield, McMaster University; Joan Tranmer, Queen's University; Ruta Valaitis, McMaster University; Sabrina Wong, UBC

## *Impact of Registered Nurses in Primary Care: A Systematic Review*

Ms. Dana Ryan, Memorial University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Registered Nurses (RNs) in primary care work in partnership with the healthcare workforce to deliver a broad range of services. Across Canada, policy-makers and administrators are seeking evidence about the measurement and effectiveness of optimal RN integration. Therefore, this systematic review will: (1) determine the effectiveness of RNs in primary care on patient, provider, and system-level outcomes, and (2) identify outcome measures and data collection methods used to evaluate RNs in primary care.

**Approach:** In accordance with Joanna Briggs Institute Systematic Review methodology, a comprehensive search of relevant electronic databases and grey literature was conducted. Articles considered for inclusion were quantitative in nature and reported on any outcome reflective of an intervention/process delivered by a RN in primary care. Articles of any date or location were included, and only literature published in English was considered. Titles and abstracts were screened independently by two reviewers for relevancy, and the full-text articles of those deemed relevant were assessed for inclusion using pre-established criteria. Disagreements between reviewers were resolved through discussion or a third reviewer.

**Results:** This study is in-progress. A total of 6405 initial titles/abstracts were screened for relevancy, resulting in 361 full-text articles to be reviewed. Following assessment of these full-texts using pre-established eligibility criteria, 66 articles were included in the appraisal screening stage. Articles are currently being appraised for quality using the 'integrated quality criteria for review of multiple study designs (ICROMS)' tool. All articles that meet quality criteria will be included in the review and undergo data extraction. Data extracted from articles will include: author(s), year of publication, country, design, methods, data collection tools, outcome(s) measured, details related to models of care to provide context, and findings/results. Extracted data will be synthesized into a literature review table and findings will be reported in a narrative summary.

**Conclusion:** RNs in primary care may represent an effective strategy to improve patient access to healthcare services. This review will inform integration/optimization of this role within primary care teams and assist with nurse-led interventions. Researchers and stakeholders will apply these findings to guide the evaluation of initiatives focused on this role.

**Author Names:** Dana Ryan, Memorial University; Julia Lukewich, Memorial University; Shabnam Asghari, Memorial University; Denise Bryant-Lukosius, McMaster University; Emily Marshall, Dalhousie Family Medicine; Ruth Martin-Misener, Dalhousie University; Maria Mathews, University of Western Ontario; Allison Norful, Columbia University School of Nursing; Olivia Parsons, Memorial University; Marie-Eve Poitras, Département de médecine de famille, Université de Sherbrooke ; Michelle Swab, Memorial University; Joan Tranmer, Queen's University

# *Using Implementation Science to Inform Integration of Electronic Patient-Reported Experience Measures (ePREMs) into Healthcare Quality Improvement*

Dr. María José Santana, Cumming School of Medicine, university of Calgary

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**Category:** Poster

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Translation and Exchange (KTE) Methods

**Background and Objectives:** Healthcare systems are increasingly prioritizing the patient perspective in quality improvement. Collecting and monitoring the information from patients through patient-reported experience measures (PREMs) about the quality of care they receive is necessary to track changes in healthcare quality, stimulate innovation, and enhance person-centred care. The objective of this paper is to discuss the use of implementation science theories, models, and frameworks to assess the integration of the electronic collection of PREMs (ePREMs) in healthcare quality.

**Approach:** To assess potential knowledge-to-practice gaps in implementing ePREMs in primary care in Alberta, the overarching implementation model that will be used is the Knowledge to Action Cycle. An integrated knowledge translation approach will ensure ongoing engagement of key stakeholders (primary care providers, quality improvement leads, and patients) throughout the study. The ePREM implementation will be informed by the identification of barriers and facilitators to implementation through interviews with key stakeholders, using the theory-based Consolidated Framework for Implementation Research (CFIR). The CFIR brings an organizational perspective providing an opportunity to explore the intervention characteristics, the inner and outer context of implementation.

**Results:** This proposed research has successfully engaged patient engagement stakeholders across Canada, through the provincial Strategy for Patient-Oriented Research networks and primary care stakeholders in Alberta. Consultations with stakeholders affirms the importance of evaluating the integrated knowledge translation approaches, as well as the implementation outcomes.

**Conclusion:** This paper describes how theoretical and practical considerations based on implementation science approaches could help addresses important ePREM implementation challenges. Future research is needed to study how, why, and in what circumstances an implementation science approach leads to successful ePREMs integration into healthcare quality improvement in primary care.

**Author Names:** María José Santana, Cumming School of Medicine, university of Calgary; Kimberly Manalili, University of Calgary

## *Measuring Health Equity in Northern Ontario*

Ms. Grace Scott, Laurentian University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The existing health disparities in Ontario disproportionately affect those living in rural and northern areas. Considering this variability, current health indicators developed in the context of health systems in more densely populated areas may not be relevant for more remote geographic areas. Thus, the objective of this research was to develop a health equity measurement strategy specific to rural and northern Ontario.

**Approach:** This study employed an exploratory sequential study design. The first phase saw key informants share their experience and understanding of health equity in Northern Ontario through semi-structured interviews. The interview transcripts were then analyzed using a theoretical thematic approach. A selection of health equity stratifiers and indicators revealed through the qualitative analysis were formally defined and linked datasets were extracted from ICES North.

**Results:** Complete transcripts were obtained from 7 participants. All interviews began with questions broadly related to health equity in the context of rural and Northern Ontario. Questions elicited holistic conversations on the elusive and intangible nature of the term 'health equity'. Amongst the discussion on health equity in a rural and northern context, several key themes emerged. The following nine main categories (themes) were identified: (1) equity, (2) social/public policies, (3) culture/language, (4) social determinants of health, (5) location, (6) health system, (7) health access, (8) health services, and (9) health outcomes. The interviews also revealed distinct health equity indicators and stratifiers specific to rural and northern Ontario. Recommendations for data development and advancing reporting techniques were also suggested.

**Conclusion:** This novel mixed methods approach to the development of a health equity measurement strategy proved to be a feasible and productive way to engage a broad reaching group of community stakeholders in the indicator development and selection process.

**Invited Experts:**

**Author Names:** Grace Scott, Laurentian University; Jennifer Walker, Laurentian University

## *Do primary care physicians visit their end-of-life patients at home? A retrospective cohort study in Ontario, Canada*

Ms. Mary Scott, Ottawa Hospital Research Institute

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** There is evidence that physician home visits at the end of life are associated with better health outcomes including better quality of life, reduced acute care use, more out-of-hospital deaths, and lower costs. It is unknown whether rostered physicians continue caring for their patients at home during their end-of-life period. This study will describe the continuity of physician care and the subsequent health outcomes for those in their last year of life in Ontario, Canada.

**Approach:** We will use a decedent cohort of patients in formal homecare during their last year of life in Ontario between April 1, 2014 - March 31, 2017 who have been rostered to a primary care physician for at least one year prior. Using linked health administrative databases housed at ICES we will obtain information on patients. We identify rostering in a two-year period prior to patients' last year of life. We examine the provision of physician visits and subsequent outcomes using descriptive statistics. We will perform statistical analyses controlling for confounders to look for associations between characteristics and continuous care.

**Results:** We plan to describe characteristics of patients who receive home visits from their physician compared to those without a visit (estimated  $n=264,755$ ). Our results will also examine subsequent healthcare outcomes (i.e. visits to the emergency department and location of death) and how they vary across those receiving visits and those not receiving visits.

**Conclusion:** Primary care providers are at the forefront of healthcare delivery; primary care physicians' practice patterns can therefore impact downstream care utilization and costs. Demonstrating patterns of home visits at the end of life and how these affect health outcomes can help optimize our healthcare system.

**Author Names:** Mary Scott, Ottawa Hospital Research Institute; Michelle Howard, McMaster University; Peter Tanuseputro, Bruyère Research Institute & Ottawa Hospital Research Institute; Amy Hsu, Bruyère Research Institute; Sarina Isenberg, Temmy Latner Centre for Palliative Care, Sinai Health System ; Abe Hafid, McMaster University; Karen Pacheco, The Ottawa Hospital

## *A conceptual framework of geographic variation in healthcare in workers' compensation systems*

Ms. Kimberly Sharpe, University of British Columbia

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Research has documented variation in healthcare spending and utilization related to supply of resources or practice patterns, rather than patient need or preferences. However, few studies have been guided by theoretical constructs and existing frameworks reflect traditional fee-for-service systems. This work develops a conceptual framework to identify drivers of geographic variation in health care services funded by workers' compensation (WC) systems, and the association of this variation with return-to-work.

**Approach:** The framework was developed from a literature review of existing health service research models, including the Dartmouth research group typology and Anderson Behaviour Model. Frameworks from the literature were expanded upon and contextualized to the WC context through an iterative process that included incorporating the results of an environmental scan of Canadian WC policies, practices and programs.

**Results:** Factors that impact variation within and outside WC are conceptualized at multiple levels, including at the level of the health system, community and individual. At the health system level, the workers' compensation system and public and private healthcare systems interact and overlap. The community level describes factors related to regional and workplace characteristics. The health system and community level in turn influence individual level interactions between injured workers and healthcare providers, which determines spending and utilization. Feedback loops demonstrate the interconnection between levels, including the affect of outcomes at the health system level. The framework is presented with a focus on the presence of managed care techniques and case management in workers' compensation healthcare, which has an important influence on care decisions and healthcare utilization.

**Conclusion:** This framework provides a comprehensive overview of the factors influencing variation in the workers' compensation system and will allow for a more nuanced consideration of what may constitute unwarranted variation in workers' compensation healthcare. There may also be opportunity to adapt this framework to other managed care contexts.

**Author Names:** Kimberly Sharpe, University of British Columbia; Kimberlyn McGrail, School of Population and Public Health, University of British Columbia; Centre for Health Services and Policy Research, University of British Columbia ; Cameron Mustard, Institute for Work, Health and Safety; Christopher McLeod, University of British Columbia

## *Implementation of Interprofessional Teams for Chronic Disease Management in Primary Care: A Cross-Case Analysis*

Dr. Shannon Sibbald, Western University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Two of five Canadians have at least one chronic disease and four out of five are at risk of developing a chronic disease. Chronic disease management relies on team-based approaches; however, lack of purposeful cultivation and patient engagement has led to systematic inefficiencies. Team-based care has emerged as a way to improve both care delivery and system sustainability. We observed and compared two primary care teams as they implemented team-based approaches to chronic disease management.

**Approach:** Data was collected using a mixed methods approach including interviews, focus groups, surveys, observations and document analysis. A cross-case analysis was conducted to identify similarities and differences across data sources. Participants include providers and patients from each primary care team. A multi-level framework by Chaudoir et al. was used to assess various factors contributing to the implementation outcomes of both team's implementation approaches. These factors include, 1) adoption, 2) fidelity, 3) implementation cost, 4) penetration and 5) sustainability.

**Results:** Results from this cross-case analysis allowed for the identification of enabling and optimizing factors of high-performing teams as well as barriers and facilitators to newly forming teams. Both teams experiencing positive outcomes on all five measurement factors (systemic and gradual approach, identification of risk factors, theory-driven, participatory approach and sustained committed support). Team A was more successful at fully implementing their model, attributed to a flexible implementation, plans to mitigate risks, theory to implement, a large supportive team and buy-in from senior leadership. Preliminary results have shown effective integrated teams have a strong sense of direction and motivation, both collectively and individually. These teams believe their work is fulfilling and rewarding, and they plan for implementation spread and sustainability early on in their implementation process.

**Conclusion:** By better understanding these key facilitators and barriers, this study will provide literature to support the development of newly forming integrated teams, support sustainability of high performing integrated teams, and support patient engagement. Additionally, this study will foster the optimization and maintenance of teams.

**Author Names:** Shannon Sibbald, Western University; Bianca Ziegler, Western University



## *Primary care provider and child characteristics associated with age of diagnosis of Autism Spectrum Disorder*

Ms. Ayesha Siddiqua, McMaster University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Early diagnosis of Autism Spectrum Disorder (ASD) can help children access early intervention services crucial for supporting their development. Examining provider and patient factors related to early diagnosis can inform ways in which pathways to early diagnosis can be improved. Our objectives are to determine among kindergarten children with ASD, the associations between time to diagnosis of ASD and (1) characteristics of the primary care provider and (2) characteristics of these children.

**Approach:** A population-based cohort study using linked health and administrative data was used. Kindergarten-age children with a teacher-reported ASD diagnosis in the Early Development Instrument (EDI) database from January 1, 2015 to June 30, 2015 were included for a cohort of 1522 children with ASD. The child's primary care provider was identified using outpatient physician billings data and child characteristics were determined at the time of the EDI completion. Age of the first health record of an ASD diagnosis was the main outcome measure. Cox proportional hazard models will be used to test associations.

**Results:** Mean age of diagnosis was 3.15 years (SD: 1.23). Mean age (years  $\pm$  SD) at diagnosis by primary care provider characteristics were: male (3.13  $\pm$  1.23), female (3.15  $\pm$  1.21); in practice: <5 years (4.5  $\pm$  0.84), 21+ years (3.15  $\pm$  1.23); training: domestic (3.06  $\pm$  1.20), foreign (3.25  $\pm$  1.25); membership in enrolment model (3.13  $\pm$  1.21), not in enrolment model (3.96  $\pm$  1.37), paediatrician (3.11  $\pm$  1.25). Mean age at diagnosis by child characteristics were: male (3.16  $\pm$  1.23), female (3.11  $\pm$  1.25); mother age at birth: <19 years (3.22  $\pm$  1.27), >19 years (3.10  $\pm$  1.22); residence: urban (3.16  $\pm$  1.23), rural (3.01  $\pm$  1.30); living in neighbourhoods: poorest (3.32  $\pm$  1.27), richest (3.10  $\pm$  1.21). Cox proportional hazards models are forthcoming.

**Conclusion:** Although ASD can be diagnosed reliably at age of 2 years, children in this study did not receive diagnosis before age 3 years with some variability by provider and patient characteristics. Such variation in care can be used to inform targeted primary care interventions to improve time to diagnosis.

**Author Names:** Ayesha Siddiqua, McMaster University; Magdalena Janus, McMaster University; Ronit Mesterman, McMaster University; Eric Duku, McMaster University; Kathy Georgiades, McMaster University; Farah Rahman, Institute for Clinical Evaluative Sciences; Haoyu Zhao, ICES; Natasha Saunders, The Hospital for Sick Children

*Policy Paradigms Conducive to Healthy Public Policy: A Multi-Level Exploration of two Ontario Government Ministries*  
Ms. Stephanie Simpson, Western University

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**Category:** Poster

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Provincial government policies often have significant potential to introduce negative impacts to population health. Health Impact Assessment brings evidence to the forefront of policy formulation to mitigate or prevent such outcomes. However, health-related evidence may interfere with, or altogether contradict, the policy objectives of non-health ministries. This study is exploring 'routine' approaches to policy formulation to better understand what makes government ministries more or less receptive to preventative tools such as the Health Impact Assessment.

**Approach:** A multiple case study is underway with two Ontario government ministries: Health and Long-Term Care, and Education. A total of 40 semi-structured interviews are being conducted with senior-level bureaucrats to explore their perceptions of 'routine' policy formulation within their ministry. Interviews will be supplemented with operational documents such as mandates and standard operating procedures. As a multi-level analysis, this study assumes that ministry contexts shape individual behaviour which, in turn, creates and sustains ministry norms. Accordingly, exploration of how cognitive architectures (e.g., heuristics) interact with political institutions (e.g., tacit knowledge) is theoretically guided by Bounded Rationality and Normative Institutionalism, respectively.

**Results:** The theories guiding this study indicate that policy actors within the same ministry will exhibit a shared understanding of 'routine' policy formulation. Specifically, Bounded Rationality posits that, as human beings operating according to cognitive, informational, and time constraints, bureaucrats will rely on certain shortcuts to facilitate decision making. At the same time, the organizational contexts in which they operate will have a significant role in shaping their approach to policy formulation, depending on their particular occupational role. Accordingly, micro (i.e., individual) and meso (i.e., ministerial) variables are expected to interact to shape 'routine' policy formulation processes. Such 'policy paradigms' may account for why some governments are more receptive than others to the implementation of preventative tools such as Health Impact Assessment.

**Conclusion:** As a preventative tool, Health Impact Assessment presents an interesting knowledge translation challenge to bring health information to the forefront of public policy. Efforts to incorporate its use as a required component of government policy development would benefit from first understanding how and why ministries operate as they do.

**Author Names:** Stephanie Simpson, Western University

## *Using malls to increase population physical activities: Mall-managers' perspectives*

Dr. Shaminder Singh, Community Health Sciences, University of Calgary Cumming School of Medicine

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**Category:** Poster

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In places like Canada, where harsh winter weather conditions can limit outdoor activities, free or low-cost indoor programs in public spaces (e.g. shopping malls) provide feasible means to increase physical activity participation at the population-level. Facility managers are key stakeholders in such programs. The objective of this study is to develop a model explaining facilitators, constraints, and barriers to building sustainable and publicly accessible indoor physical activity programs in malls from the perspective of mall-managers.

**Approach:** We are recruiting and interviewing mall-managers of all shopping malls throughout Calgary (Alberta, Canada). Using semi-structured interviews, we will inquire of their roles and current engagement with the catchment community, availability of mall spaces for physical activity, and perceived facilitators, constraints, and barriers to implementing physical activity programs. We will analyze the interview data using thematic analysis with a constant comparative approach. We will code by condensing, segregating, and labelling pieces of data into abstract and meaningful segments that will allow us to search and refine emergent themes, which will lead to writing an in-depth description of the findings.

**Results:** The findings will reveal facilitators, constraints, and barriers of mall-managers for developing, implementing, and evaluating public indoor physical activity programs. Specifically, we will learn about what may work (or not) for which mall and under what circumstances. The resulting knowledge will inform the community-engagement strategy in the next phase of this research and ultimately strengthen the justification to design and implement other indoor physical activity initiatives across Alberta and elsewhere in Canada. This innovative work will well-position our transdisciplinary research team to develop sustainable community-based indoor physical activity programs that are meaningful for various end-users to achieve a population-level impact in real-world settings. The findings will inform the development of a model that can guide mall-managers to build and implement sustainable indoor physical activity programs.

**Conclusion:** The study might help mall-managers to use their spaces in implementing indoor physical activity programs. If effective, it might be possible to adapt the resulting community engagement model to other indoor public settings. The study findings may be useful for informing research and health policy directed to increase physical activity.

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## *Equity, effectiveness, and efficiency: the case of publicly funded personal support and homemaking services in Ontario*

Dr. Chi-Ling Sinn, School of Public Health and Health Systems, University of Waterloo

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Many Ontarians rely on personal support and homemaking (PS/HM) services to live independently in the community; however, the Auditor General found that access to publicly funded PS/HM services varied by region. In 2018, Ontario adopted the Personal Support Algorithm that supports a consistent method for assessing need for PS/HM and linking the degree of need with service levels. A policy and practice gap remained, however, without evidence to substantiate the “right” amount of services.

**Approach:** A retrospective cohort study of PS/HM service use and health outcomes among home care clients within a single administrative region in Ontario was undertaken to bridge the gap (n=30,625 unique clients). The outcome measures were caregiver distress, moving to cluster care residence, moving to long-term care home, and death. Based on the initial home care assessment, each client was assigned to one of three states based on the presence of caregiver distress. A period of up to 15 months was allowed to observe a follow-up assessment or home care discharge. State changes were modelled using a Markov multi-state transition model.

**Results:** The Personal Support Algorithm recommends a median and range of PS/HM hours for each client group. The variable of interest was the quintile of PS/HM services (reference = 3rd quintile or median allocation). Adjusting for baseline client characteristics, providing less than the median PS/HM services significantly increases the odds of new caregiver distress, institutionalisation, and death. Few significant findings were associated with providing more than the median PS/HM services. These results suggest that the Personal Support Algorithm’s guidelines maximise health outcomes for most clients.

This presentation will discuss how the Personal Support Algorithm supports horizontal and vertical equity, how the study findings demonstrate the effectiveness of service levels, and how policymakers can utilise the guidelines to distribute current and future funding equitably and efficiently.

**Conclusion:** Using the Personal Support Algorithm will not only promote greater transparency and consistency across PS/HM service plans, but should also maximise the value of positive client and family outcomes for money.

**Author Names:** Chi-Ling Sinn, School of Public Health and Health Systems, University of Waterloo

## *Examining technological, organizational, and environmental support for the adoption of equitable AI for public health in BC and ON*

Dr. Melodie Yun-Ju Song, Public Health Ontario

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** In 2018, CIFAR and CIHR have jointly discussed the challenges for public health to adopt Artificial Intelligence (AI), such as a need for training, data access, and partnership with the private sector. In 2019, an equitable AI for public health fellowship embedded 3 postdoctoral fellows in BC and ON to conduct AI studies, this research looks at the challenges the inaugural fellows encounter and provide recommendations for public health adoption of AI in public health

**Approach:** To evaluate and expand on the challenges identified in CIHR and CIFAR's document in 2018, this study explores the organizational challenges of AI adoption in the three fellows' embedded public health organization. We apply the T-O-E framework, an information management theory that looks at the technological, organizational, and environmental contexts for AI-adoption as our underlying framework. The three fellows, their academic and institutional supervisors are invited for a 45 minute semi-structured interview. Interviews are to be recorded and transcribed, a qualitative content analysis will be used to analyze the data on MAXQDA20.

**Results:** The anticipated results would allow the identification of the different technological (e.g., relative advantages, nature of AI applications and compatibility with public health ethics and privacy), organizational (Top management support, organizational structure and size, human resources, data access and quality, and financial resources), and environmental (including government regulations, competitive pressure, and collaborative needs) contexts that drive or impede the Equitable AI for public health fellows' research. The results provides a more nuanced recommendations for the three CIFAR/CIHR recommendations (i.e., need for training, data access, and partnership with the private sector) to strengthen AI-adoption for regional and federal public health agencies. Fairness, equity, feasibility, and sustainability of each of the three fellows' inaugural AI-projects are also discussed.

**Conclusion:** This study will contribute to supporting future success of CIHR research funding initiatives that embeds AI-research fellows in public health organizations. Recommendations on how to address data access, training provision, and strengthen public-private partnerships are made.

**Author Names:** Melodie Yun-Ju Song, Public Health Ontario; Stacey Fisher, Ottawa Hospital Research Institute

## *Applying the Service Profit Chain to Health Care*

Dr. Claudia Steinke, University of Lethbridge

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** This research explores various elements of service design in the emergency department using a modified version of the Service Profit Chain (Heskett et al., 1997). The 'Service Outcome Chain,' is a framework that may be viewed as a methodology for setting the service strategy and guiding the design and management of service in public sector health care. The framework views service design from a structural, process and outcome perspective.

**Approach:** In this study, principle chain relationships are explored using data collected from frontline service providers in two emergency departments. A mixed methods approach was applied to examine the relationships identified in the Service Outcome Chain.

**Results:** The findings provide evidence that certain structural elements of service (e.g. service training, physical design), through their impact on process (e.g. service climate), have the potential to positively influence outcomes of service (e.g. service quality, client satisfaction, client empowerment) in emergency departments. The link between the structure and outcomes of service was revealed (i.e. service climate), which informs us of how we can design for improved outcomes through a focus on service. The research also highlights the importance of managerial practices and the design of the physical setting in creating a climate for service in organizations.

**Conclusion:** The study applied a modified version of the Service Profit Chain to broadly explore certain structural, process and outcome elements of service design. The findings identify ways to improve the quality of service in emergency departments, an environment fraught with significant and ongoing pressures and demands.

**Author Names:** Claudia Steinke, University of Lethbridge

## *Comparison of high drug-cost beneficiaries between Ontario and Australia*

Dr. Mina Tadrous, Women's College Hospital

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**Category:** Poster

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Payers globally are struggling with the rising costs of drugs. These rapid increases are driven by the increasing number of high-cost drugs. This is a major concern for the sustainability of public drug programs.

**Objective:** To compare the spending on high drug-cost beneficiaries between Ontario and Australia.

**Approach:** A cross-sectional analysis was conducted in Ontario and Australia in fiscal year (FY) 2006 to 2017. We identified the number of public drug beneficiaries and their total drug-costs. Based on annual spending, beneficiaries were divided into 3 cost groups; very high (Top 1%), high (Top 5%) and other (remaining 95%). We reported the following: 1) cost and proportion of total spending; 2) number of unique drugs dispensed per person; and 3) the top 10 most costly drug classes. This was reported for each year.

**Results:** Across both Ontario and Australia, the top 5% of beneficiaries accounted for a growing proportion of all drug costs. This grew from 29% to 46 % in Ontario and 33% to 58% in Australia between 2006 and 2017. The costliest drug classes among high drug-cost beneficiaries in both jurisdictions were biologics and hepatitis C treatments.

**Conclusion:** Both Ontario and Australia exhibited a high degree of clustering of drug-costs among beneficiaries, largely driven by the use of expensive medications. These findings highlight that even with a universal program the impact of high-cost drugs is impactful. Current development of potential national pharmacare strategies in Canada must account for

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## *Prescribing Trends of Direct Acting Antivirals (DAAs) for the Treatment of Hepatitis C in Ontario*

Dr. Mina Tadrous, Women's College Hospital

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**Category:** Poster

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** The ease and effectiveness of direct acting oral antivirals (DAAs) treatments provide opportunity to expand treatment for chronic hepatitis C (HCV). Reimbursement mechanisms for DAAs have changed on two occasions since these drugs were added to Ontario's publicly funded drug formulary. Whether these changes have appreciably modified prescribing patterns and increased access to DAAs is unknown. The purpose of this study was to summarize the utilization of DAAs in Ontario between 2012 and 2018, and describe

**Approach:** We conducted a repeated cross-sectional study for DAAs reimbursed by the public drug program in Ontario from January 1, 2012 to December 31, 2018. We measured the quarterly number of users, overall and by prescriber specialty. Characteristics of those receiving DAA treatments in 2018 were examined overall and by prescriber specialty.

**Results:** A total of 27,116 individuals received a publicly-funded DAA prescription between Q1-2012 and Q4-2018. Nearly two-thirds (n=17,813; 65.7%) of all DAAs were prescribed by gastroenterologists, hepatologists or infectious disease specialists. Only 9.6% of DAA recipients were treated by general practitioners. Utilization of DAAs had three major phases of increased uptake: (1) the introduction of DAAs to Ontario's public drug formulary as a prior authorization benefit in Q1-2015; (2) expanded listing of DAAs as limited use products on the formulary in Q1-2017; and (3) the introduction of newer DAAs in Q2-2018. In 2018, 2,538 unique individuals received publicly funded DAAs. The majority were over age 50 (59.8%), male (63.8%) and living in urban (88.8%) neighborhoods of lower socioeconomic status (41.7% in lowest income quintile neighborhoods). There

**Conclusion:** HCV elimination guidelines call for an expansion of the range of who delivers HCV treatment. Changes in the listing criteria of DAAs in Ontario's public drug program has led to increased uptake of these agents. However, there does not appear to be increased prescribing of DAAs among primary care prescribers.

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## *Effectiveness for introducing nurse practitioners in six long-term care facilities in Québec, Canada: A cost-savings analysis*

Dr. Eric Tchouaket, Université du Québec en Outaouais

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** Internationally, most studies have focused on quality and safety in long-term care. However, studies focusing on the economic evaluation of quality and security in long-term care is sparse. Moreover, the economic evaluation of nurse practitioner care in long-term care is lacking, particularly in Québec Canada where roles are new.

The aim of this study is to evaluate the effectiveness of introducing nurse practitioners in six long-term care facilities in Québec using a cost-savings analysis approach.

**Approach:** Using a prospective observational study from September 2015 to August 2016, we included all residents (n=538) of six long term care facilities. We estimated the occurrence of four nurse practitioner sensitive events (NPSEs): falls, pressure ulcers, short-term transfers, and a change in the number of medications consumed. A literature analysis was used to estimate excess median long-term care facility related costs (in 2016 \$CAD) of these NPSEs. The cost savings with the reductions of NPSE between first and second semesters following the introduction of a nurse practitioner in the long-term care facilities were estimated. Interrupted time series regression was used.

**Results:** The median cost of 341 cases of falls, 32 cases of pressure ulcers and 53 cases of short-term transfers in the six long-term facilities would range between CAD 4,516,337.8 and CAD 5,281,824.4. Moreover, the total costs savings from the reduction of adverse events including the reduction of nursing administration time for medications would be between CAD 1,942,533.6 and CAD 3,254,403.4.

**Conclusion:** This is the first study to present the financial consequences of NPSEs in long-term care. Important cost savings were generated from the reduction of NPSEs following the implementation of nurse practitioner roles. Government should consider these results for prevention and improvements in quality, equity and safety in long-term care.

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# *Economic analysis of nosocomial infections prevention and control interventions in OECD hospitals: Systematic review protocol*

Dr. Eric Tchouaket, Université du Québec en Outaouais

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Nosocomial infections (NIs) are topical serious public health problem experiences over the world associated to major morbidity and mortality. Because of the extra cost generated, since 2004 in Canada, there are mandatory monitoring program related to the prevention and control of INs. This systematic review measures the return on investment of four Best Clinical Practices (BCPs) related to prevention and control of NIs interventions: hand hygiene, hygiene and sanitation, screening, and basic and additional precautions.

**Approach:** We searched from Medline, Cinahl, Cochrane, JSTOR, Embase, Web of science, Cordis and OpenGrey. We included cross-sectional, randomized clinical trials, quasi-experimental, case-control, cohort, and longitudinal studies published in English or French from 2000 to 2019. All studies on the four BCPs associated to the four NIs: Clostridium Difficile associated diarrhea, Methicillin-resistant Staphylococcus aureus, Vancomycin-resistant enterococci, and Carbapenem-resistant Gram-negative Bacilli were included. Three independent reviewers extracted data. The Scottish Intercollegiate Guidelines used to evaluate reporting quality. Costs were adjusted to 2019 \$CAD using the discount rates of 3%, 5%, and 8%. The cost-effectiveness, cost-utility, and cost-benefit ratios were estimated.

**Results:** The searches yielded 11,679 unique records of which 2,792 were duplicated, and 8,859 were excluded during title and abstract review. Ultimately, 28 papers were selected. All the manuscripts were published in English.

They were conducted in 11 countries: USA (7), Germany (4), Netherland (4), UK (4), Canada (3), France (2), Australia (1), Isreal (10), Korea (1), Portugal (1) and Switzerland (1). For the BCPs, 3, 3, 9, and 4 studies referred exclusively to economic evaluation of Hand hygiene, sanitation, screening, basic and additional precautions respectively. Furthermore, 10 studies included economic evaluation of at least to BCPs. Finally, we found 12 cost studies, 1 cost saving studies, 9 cost effectiveness studies, 7 cost benefit studies, and no cost utility studies.

**Conclusion:** The results present the financial impact of nosocomial infections prevention and control interventions in OECD hospitals. The decision makers should take into account of these results in order to strengthen investment in prevention of nosocomial infections.

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## *What is This That We Are Measuring: Historical, Epistemological and Practical Reflections on Value-Based Care*

Mr. Brayan Viegas Seixas, Department of Health Policy and Management, UCLA

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** The unsustainable growth of health care expenditures in high-income nations has fostered an intense debate around the idea of value-based care. Initially thought as a concept that translates the aggregate utility attributed to a good/service usually revealed through the price mechanism, the idea of value has moved towards something more complex and difficult to define. The present study aims to contextualize this problem and provide practical guidance on the delineation and measurement of value.

**Approach:** Our work consists of three parts: 1) historical overview of the conceptual and methodological developments around the idea of value; 2) an epistemological analysis of the field of health economics and the impact of specific contextual factors for the consolidation of certain beliefs about value; and 3) a practical reflection based on a systematic review conducted by our group about value assessment frameworks and an analysis of the latest theoretical pieces around value-based care. Lastly, we essay what a definition of value needs to encompass in order to be theoretically consistent, contextually relevant and feasibly measurable.

**Results:** Rooted in neoclassical economics, the concept of value has gained different contours and narrative framings throughout the past century. While in a non-distant past value was circumscribed in the realm of efficiency, nowadays value has been vaguely regarded as some sort of composite measure that could encompass all relevant dimensions in the process of decision-making for funding health care interventions. Although the much-needed urge for tackling the unsustainability in health expenditures has increasingly pushed policy-makers and researchers to defend a shift from a volume-based to a value-based paradigm, the new central underlying concept has not been properly delimited in order to be measured.

**Conclusion:** The concept of value has been mobilized in the literature with different connotations and from distinct viewpoints. Consequentially, the so-called value assessment approaches have often non-converging natures and objectives. We hope this work to contribute to a consistent pursuit of value in health care systems.

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## *Physician burnout in Canada: A scoping review*

Ms. Jacqueline Wagner, College of Physicians and Surgeons of Alberta (CPSA)

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** The National Physician Health Survey recently reported that 30% of Canadian physicians are experiencing high levels of burnout. Yet, our understanding of any burnout framework is often confounded by its underlying complexity. System factors, individual factors, and competency factors can all interact at varying degrees to either promote or challenge physician performance. With a paucity in Canadian literature, exploring the data is becoming increasingly important to highlight target areas for future research, programming and supports.

**Approach:** A scoping review will be conducted using the search terms 'physician burnout' and 'Canada', including subject equivalences, across six major databases. To maintain a search strategy with high sensitivity, the approach will employ basic searches with the broad aforementioned search terms. Additional sources and grey literature will also be assessed via reference checking and general internet searches using the same search terms. Literature that focuses solely on medical students, residents, and/or other healthcare professionals will be excluded. The included papers will be organized thematically according to geographic location, specialty, burnout inventories, prevalence rates, economic implications, and predictive factors of burnout.

**Results:** Preliminary searches have yielded approximately 10,000 articles before exclusions. The included papers and additional sources will be mapped into a thematic chart that will highlight both gaps in research and well researched areas.

**Conclusion:** The scoping review will help create a foundation outlining the direction for future research, programming and supports for physician burnout. Establishing a foundation of the current knowledge surrounding burnout in Canada is critical to any future programming planning that will be aimed to support physicians.

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## *Implementing equity-oriented health system improvement: EQUIP Health Care*

Dr. Nadine Wathen, University of Western Ontario

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Health inequities continue to grow while health systems strive to balance increasing needs with cost efficiencies. EQUIP Health Care aims to restructure organizations to deliver equity-oriented health care to reduce: the effects of structural inequities, the impacts of racism, discrimination and stigma; and the mismatches between conventional care approaches and people's needs. We demonstrate EQUIP's alignment with the quadruple aim of healthcare improvement: better patient experiences and outcomes, lower costs, and staff well-being.

**Approach:** This paper briefly reviews common approaches to health system improvement, including "quality" models founded in business approaches such as Lean and Six Sigma, and what we know about their effectiveness in Canadian contexts to: 1) situate EQUIP as a novel model to address the quadruple aim; and 2) argue that if health systems are to become equitable, they need to consider complexity and move beyond conventional quality improvement and accountability approaches.

**Results:** The fundamental components of quality improvement approaches founded on Lean, and the drive for homogenization in, for example, Six Sigma, do not align with either the realities of health care nor the quadruple aim of health system improvement. Large-scale implementations of Lean-based approaches in several Canadian jurisdictions have not led to improvements in core indicators, are showing poor cost-effectiveness, a shift away from core features of person-centred care, and significant additional stress on staff. EQUIP, which has demonstrated benefit in primary care, and is being adapted and tested in numerous other health and social service contexts, is a flexible intervention of tailored, contextually appropriate organizational and provider-level strategies to promote and assess equity-oriented care across a range of health care settings.

**Conclusion:** Canadian Lean-based quality improvement efforts indicate little, if any, added value, with high costs and implementation burden. Health policy actors and organizational leaders concerned with reducing health inequities and achieving the quadruple aim of health care improvement are encouraged to consider EQUIP Health Care as an evidence-based, tailorable, practice-ready intervention.

**Author Names:** Nadine Wathen, University of Western Ontario; Vicky Bungay, University of British Columbia; Erin Wilson, University of Northern British Columbia; Annette Browne, UBC School of Nursing; Colleen Varcoe, UBC School of Nursing

## *Development of a reporting checklist for clinical prediction studies using machine learning*

Mr. Colin Weaver, University of Calgary

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** The use of machine learning to develop clinical prediction models is increasing. However, reporting quality of studies using these methods varies substantially. Existing reporting checklists (e.g., TRIPOD) are insufficient for machine learning studies. Improving reporting will allow others to more easily assess validity, replicate methods, and interpret and use models. The objective of this study is to develop a reporting checklist for studies developing clinical prediction models using machine learning.

**Approach:** The results of this work in progress will be presented at the conference. The checklist will contain items that are unique to the reporting of a machine learning study, in areas where the risks of bias are different, the reporting is different, and/or the reporting is more challenging. First, the draft checklist will be developed based on existing reporting guidelines, textbooks, and consultations with machine learning experts. The checklist will then be piloted on five randomly selected published articles and amended as needed. An explanation and elaboration document will expand on the checklist and provide examples of complete reporting.

**Results:** The checklist has been drafted using literature and expert consultations and is currently being piloted. The draft checklist contains 18 items within the following four domains. 1) Modelling procedures: order and description of data used for each (to enhance replicability and assess risk of bias). 2) Statistical methods: algorithm details and tuning (to enhance replicability). 3) Model performance: including items of greater importance when many models are compared (to assess risk of bias). 4) Model presentation: for example, describing the contribution of each predictor to the final model (to allow others to interpret and use the model).

**Conclusion:** This extension to the TRIPOD checklist will ultimately improve reporting quality of studies using machine learning to develop clinical prediction models.

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# *Reporting of model performance and statistical methods in studies developing clinical prediction models using machine learning: a systematic review*

Mr. Colin Weaver, University of Calgary

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** The use of machine learning to develop clinical prediction models is increasing. The reporting quality of these studies is largely unknown. Improving reporting will allow others to more easily assess validity, replicate methods, and interpret and use models. The objective of this study is to assess reporting quality of studies developing clinical prediction models using machine learning, with the ultimate goal of improving reporting quality through increased awareness of common and important reporting deficiencies.

**Approach:** The results of this work in progress will be presented at the conference. Electronic databases will be searched to identify studies developing clinical prediction models using machine learning. To ensure feasibility the review will be limited to a fixed sample of 50 studies published in October 2019. Reporting quality will be assessed independently by two reviewers using a checklist developed by the authors (the subject of a separate abstract submission to this conference). The checklist focuses on areas where the risks of bias are likely different in machine learning studies, or reporting is likely different or more challenging (e.g., tuning).

**Results:** The proportions of included studies reporting each of the checklist items will be reported. The proportion of applicable items reported per study will also be described. There will be two subgroup analyses, by discipline of journal (medical versus computer science, statistics, etc.) and discipline of first author (medical or related department versus computer science, statistics, etc.). The hypothesis is that journals and authors in computer science, statistics, and related fields will report machine learning methods more completely. The review will also identify examples of studies that report items particularly well, giving readers insight into how difficult areas can be reported well.

**Conclusion:** This review will identify and increase awareness of common and important reporting deficiencies in studies developing clinical prediction models using machine learning. This may result in authors reflecting more on their reporting, journals and reviewers demanding improved reporting, and ultimately improvements in reporting quality.

**Author Names:** Colin Weaver, University of Calgary; Mohamed Yusuf, Manchester Metropolitan University; Paul Ronksley, University of Calgary; Kerry McBrien, University of Calgary; Tolulope Sajobi, University of Calgary; Tyler Williamson, University of Calgary

## *Reducing Heart Failure Readmissions in Alberta, Canada: Describing the Current Landscape*

Ms. Natalie Wiebe, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Alberta's healthcare system seeks to decrease resource utilization while maintaining quality care. Avoidable hospital readmissions are common and costly occurrences, and are associated with a high risk of morbidity and comorbidity. Heart Failure (HF) is a primary contributor to hospital readmissions. 23% of HF inpatients are readmitted within 30 days of discharge. Our objective is to describe Alberta's recent efforts in reducing HF readmissions, upon which future HF readmission initiatives can be derived.

**Approach:** Between October 2019 and December 2019, in-person and phone interviews were conducted with experts in the field, including data analysts, clinicians, clinical pathway support personnel, and researchers. Interviews informed our understanding of past and present initiatives underway in Alberta. A detailed analysis was performed on the success of prediction models for HF readmissions, as well as interventions to decrease readmission risk, specifically with regards to computerized physician alerts identifying patients at risk of readmission. Members of Alberta Health Services (AHS) Cardiovascular Strategic Clinical Network Experts were contacted to ensure all Albertan initiatives (Calgary, Edmonton and Red Deer) were captured.

**Results:** Based on preliminary data showing high cost, high volume, and high readmission rates for HF patients, the AHS Calgary Zone Quality Council and the Zone Senior Leadership Team have prioritized COPD and HF to be the initial focus for Outcomes Improvement work. Since 2010, Several AHS projects have been deployed at the local and provincial levels to address the HF crisis. Though some of the earlier local initiatives saw modest gains, successful components are being integrated into ongoing AHS operations, such as Connect Care. Connect Care aims to connect all provincial healthcare services through a common clinical information system (Epic). With this initiative, AHS is well on its way to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

**Conclusion:** Alberta has undertaken several initiatives to address issues surrounding HF readmissions. With these project results, current AHS initiatives, like Connect Care, will integrate successful components of previous work aimed to decrease HF readmissions in Alberta. Consequently, Alberta will see improvements in resource utilization, patient management, and patient health.

**Author Names:** Natalie Wiebe, University of Calgary



# *Good Intentions: An Examination of the Legal and Ethical Harms Caused to Donor-Conceived People and Ova Donors in Canada by its Criminalization of Compensated Gamete Donation, and Proposed Remedies*

Mr. Shawn Winsor, McMaster University

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** The Assisted Human Reproduction Act (the “AHRA”) was passed in 2004. What had once been permissible – compensating a gamete donor for their time; inconvenience; and potential pain, suffering, and risk – became criminal activity punishable by up to ten years in jail and/or a fine of up to \$500,000. The justification lay in equating gamete compensation with the commodification of human tissues. With this new law, Canada became almost completely dependent on imported.

**Approach:** Using relevant evidence, case law, and the bioethical doctrine of double effect, we will explain how criminalizing compensated donation has hindered Parliament’s legislative goals and harmed the very people the AHRA intended to protect – in particular, donor-conceived people, and ova donors; why the law is unenforceable in practice; how the doctrine of double effect can be used to demonstrate that reasonable compensation to gamete donors is ethically permissible; and how donors and recipients can benefit from gamete donation policy and practices that are regulated as health and parentage matters, not criminal ones.

**Results:** Parliament’s legislated goals set out in s.2 of the Act are hindered: e.g., (i) prioritizing the health and safety of women and children (consanguinity risk due to lack of Canadian donor registry), (ii) protecting patients’ rights and legally valid participation in treatment (unachievable for donors and recipients when Canadians compelled to produce and access gametes outside Canadian borders), (ii) ensuring non-discrimination on the basis of sexual orientation (cis-gendered individuals wishing genetic connection to child must use third-party reproduction from donor gametes). As shown in other Commonwealth jurisdictions, severity of penalties in s.2 makes law unenforceable.

Double effect doctrine demonstrates how it’s ethically permissible to cause a harm (commodification through compensation) as a side effect (or “double effect”) of bringing about a good end (Parliament’s goals).

**Conclusion:** Rescinding the prohibition on reasonable compensation will fairly recognize the contribution of donors to third party reproduction, create the legislative room provinces need to regulate the practice and introduce safety measures like mandatory donor registries. This is ethically permissible even if one accepts as valid the harms attributed to compensation.

**Author Names:** Shawn Winsor, McMaster University; Sara Cohen, D2 Law LLP

*Benefits of a mentorship program on interprofessional collaboration in obstetric and neonatal care. A qualitative descriptive case study in Rwanda*

Mrs. Assumpta Yamuragiye, Western University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Interprofessional collaboration (IPC) is a very important aspect to consider in delivering quality emergency obstetric and neonatal care (EmONC). The Training, Support, Access Model for Maternal, New Born and Child Health (TSAM – MNCH) project in Rwanda has provided a mentorship program in Rwanda to improve the quality of EmONC. In that mentorship, IPC was focused on. However, there was no research conducted to understand how mentorship has helped to improve IPC

**Approach:** A qualitative descriptive case study design underpinned by a constructivism paradigm was used to understand the from HCPs mentees how mentorship has helped them to improve IPC practice. Twenty five HCPs mentees and five director generals of the five hospitals where mentorship was implemented were invited for one on one semi structured interviews. Data were recorded and then transcribed and analyzed to identify emergent categories and themes.

Inter group contact theory and social identity theories were used to frame this research

**Results:** Four major themes related to IPC experience and Tsam mentorship were identified from health care professionals dealing with EmONC:

Experience with IPC and TSAM mentorship 2) Benefits of TSAM mentorship on IPC 3) challenges with mentoring programs and IPC improvement 4) Suggestions to improve TSAM mentorship. In general, participants appreciated the benefits of TSAM mentorship in improving IPC practice and quality of care in a broad sense especially increased in self confidence, communication, knowledge and skills. However, they mentioned the challenges related to the duration of mentorship and suggested an increase in frequency and duration of mentorship visits.

**Conclusion:** This study aimed at exploring the benefits of TSAM mentoring program on IPC practice. The findings indicated an increase in self confidence and awareness of own responsibilities which also contributed to improved working relationship among team involved in EmONC. Future studies should identify the strategies to sustain the improved practice

**Author Names:** Assumpta Yamuragiye, Western University; Lloy Wylie, Western University

## *Rapid Blood Culture Identification Testing Combined with Antimicrobial Stewardship Programs and Procalcitonin Testing for Sepsis Management May Have Economic Benefits*

Dr. Charles Yan, The Institute of Health Economics (IHE)

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Prompt initiation of antimicrobial therapy is associated with improved outcomes. Compared to traditional culture methods, rapid blood culture identification (BCID) combined with antimicrobial stewardship programs (ASP) and procalcitonin (PCT) testing can reduce time to identification of the causative organism for patients with confirmed or suspected sepsis admitted to the intensive care unit (ICU). Alberta Health Services conducted a multi-center, prospective, adaptive, time-series evaluation of ASP, PCT, and BCID testing. The abstract reports its economic results.

**Approach:** Phase I (12-week, baseline data collection) enrolled 342 adults and 40 pediatrics, following by Phase II (12-week, 385 adults and 40 pediatrics) that implemented ASP, PCT and BCID testing. The health resource uses of hospital and ICU stay, antibiotics use, treatment for antibiotic-related adverse events, re-admission to hospital within 90-day post-discharge, and the implementation of ASP, PCT, and BCID were considered. The effectiveness measure was the quality of life. The model captures explicitly the effects of the mortality rate in hospital and post-discharge, adverse events, and hospital re-admission. The length of stay in hospital and ICU was considered in cost.

**Results:** The antibiotics cost in pre-intervention (Phase I) and intervention (Phase II) was \$630.6 and \$596.8 for adults, and \$306.7 and \$466.7 for pediatrics, respectively. In pre-intervention and intervention phases, the in-hospital mortality rate was 20.18% and zero; the outside-hospital mortality rate was 5.86% and 5.71%; and the new C. difficile infection events were 0.88% and 0.52%, respectively. No death was observed in pediatrics. In both adults and pediatrics, the intervention was less costly than the pre-intervention, with the difference of \$12,834 for adults and \$3,646 for pediatrics. QALYs were higher in intervention than in pre-intervention. Over the 90-day post-discharge period, the intervention and pre-intervention phase was associated with 0.157 and 0.125 QALYs for adults, respectively. For the pediatrics, the QALYs were 0.192 and 0.188, respectively.

**Conclusion:** Our study suggests that the CBID testing combined with ASP and PCT testing is associated with higher QALYs gained at lower costs, compared with usual care. The findings imply that the intervention may have substantial potential to improve health system value.

**Author Names:** Charles Yan, The Institute of Health Economics (IHE); Jeff Round, The Institute of Health Economics; Dawn Opgenorth, Department of Critical Care Medicine, The University of Alberta; Sean Bagshaw, Department of Critical Care Medicine, The University of Alberta; Wendy Sligl, Faculty of Medicine & Dentistry, the University of Alberta

## *Current policies guiding community inclusion for children with disabilities that exist at the different levels of government in Canada: a discussion*

Mr. Paul Yejong Yoo, McGill University

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Participation is a key component for a healthy development for children. Health initiatives and built environments are mediums and platforms where participation can occur and through which these benefits can be leveraged. Participation of children with disabilities in leisure activities is restricted in comparison to that of typically developing children. These restrictions have been linked to environmental factors, including the policies and programs in place that can act as facilitators or deterrents for participation.

**Approach:** Community inclusion is defined within a human rights framework whereas environmental factors should ensure an individual's right to fully participate in the community. Full participation in the community encompasses several articles of the UN Convention on the Rights of Persons with Disabilities such as access to community facilities, services, and public transport; freedom of independence, expression, and opinion. Current policies that guide and promote community inclusion for children with disabilities, at the different levels of government, are analysed and implementation mechanisms that can inform future policies for community inclusion in Canada are discussed.

**Results:** Two international treaties addressing the rights of children with disabilities were established: The United Nations Convention on the Rights of the Child (CRC) ensured the rights of children, it was first human rights instrument to include protection against discrimination secondary to disability. The rights of children with disabilities were further affirmed in the United Nations Convention on the Rights of Persons with Disabilities (CRPD). Ratification of international conventions like the CRC and the CRPD by Canada has led to the development of policies that may have an impact at different jurisdictional levels. We identified policies at the federal, provincial, and local levels that can support community inclusion and analyzed under the UN CRC and CRPD.

**Conclusion:** Policies supporting human rights include those related to the federal level scope such as the new Accessible Canada Act, and the disability tax credit benefit. Those policies lack specific mechanisms for children with disabilities, and the uptake and implementation may be compromised for this group.

**Author Names:** Paul Yejong Yoo, McGill University; Keiko Shikako-Thomas, McGill University; Annette Majnemer, McGill University

*Better access to after-hours care but less opportunities to book appointments online: results from The Commonwealth Fund's 2019 Survey of Primary Care Physicians*

Mrs. Alison Ytsma, CIHI

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** • Provide international comparisons of Canadian primary care physicians' self-reported experiences against those in 10 other developed countries

- Understand how well primary care works in Canada and where improvements still need to be made from the perspectives of primary care physicians.
- Examine these results through the lens of patient access to care and information technology adoption.

**Approach:** The Commonwealth Fund's 2019 International Health Policy Survey reflects experiences of primary care physicians in 11 countries - Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States.

Data was collected through mailed and online surveys. In total, there were 2,569 respondents in Canada representing physicians in all 13 jurisdictions. The data was weighted by age and gender and then subsequently adjusted to reflect the share of each jurisdiction among Canadian primary care physicians. Statistical tests were performed to compare national and provincial results with the international average.

**Results:** Canadian physicians report providing more evening and weekend appointment compared to their peers, although results vary by province. Interestingly, physicians in group practices offer better weekend access compared to those practising solo. Canadian physicians are less likely to be available to their patients electronically with few doctors allowing patients to book appointments online or ask questions via email.

This follows a trend showing that while Canadian physicians are increasing use of digital technology in their practices, they are still lagging behind other countries when it comes to offering digital services. Canadian physicians are also less likely to offer patients access to options such as renewing a prescription online or viewing lab or test results online.

**Conclusion:** Results of the survey show positive trends for Canada in some aspects of patient access to care. However, the full benefits of these changes in practice are yet to be seen. Canada still has room for improvement in fully utilizing digital services for improving access.

**Author Names:** Alison Ytsma, CIHI; Liudmila Husak, CIHI; Grace Cheung, ; Tracy Johnson, ; Rabab Wali, Canadian Institute for Health Information; Christopher Kuchciak, CIHI; Gilles Fortin, CIHI; Xinbei "Annie" Zhao, CIHI; Alain Yao, CIHI

## *A mixed method study on the landscape of Citizen Access among GDHP participants*

Ms. ellie yu, canada health infoway

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The Global Digital Health Partnership (GDHP) is a collaboration of governments and territories, government agencies and the WHO, formed to support the effective implementation of digital health services. The Clinical and Consumer Engagement Work Stream focuses on clinician engagement in the design and implementation of digital health programs. This study conducted by the work stream explored the global landscape surrounding the availability, utilization, and evaluation of providing personal health information to citizens among GDHP participants.

**Approach:** A mixed methods approach was used to explore the state of providing citizens with access to their personal health information (PHI) as well as understanding the key drivers/barriers for adoption. All GDHP participants were surveyed on their state of citizen access to PHI. Based on the survey results, a handful of GDHP participants were purposefully selected for key-informant interviews with country representatives. Selected jurisdictions included identified leaders in digital health and those with interesting policy approaches. Policy case studies were produced based on the interviews and supplemented with a literature scan to highlight successful implementation strategies and policy evaluation methods.

**Results:** Overall, 22 GDHP participants completed the survey portion of the study. Citizen access to PHI is reported as broadly available to 40% of responding countries and available to most people in additional 20% of responding countries. Although all respondents state that citizens should have access to their PHI; however, adoption by citizens has been gradual with most respondents reporting that less than a quarter of their population has accessed their PHI electronically. Many countries remain in the early phases of implementation and adoption. Case studies of selected participants suggests a shift towards a coordinated/national approach to providing citizens with access. Some jurisdictions are in the implementation phase of this approach while others describe future strategies for a national solution.

**Conclusion:** Over the last decade, tremendous efforts have been made globally to provide citizens access to PHI in an equitable and secure manner. This study fills a knowledge gap by providing a global overview of policies/strategies in this area using primary research and policy case studies.

**Author Names:** ellie yu, canada health infoway; Simon Hagens, Canada Health Infoway; Waldo Beausejour , canada health infoway

**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Stem cell research may ultimately improve treatments for various serious illnesses and debilitating conditions. However, its clinical translation is complicated and stem cell-based interventions (SCBIs) carry risks. There is a growing Canadian market for SCBIs that have not been proven to be safe or effective. These interventions are often advertised on a direct-to-consumer basis which raises a number of policy concerns. This research explores legal options for addressing problematic marketing practices for SCBIs in Canada.

**Approach:** Building on previous work, we first explored varied aspects of Canada's regulatory regimes for truth-in-advertising and marketing claims, including federal mechanisms (e.g., Competition Act, the Food and Drugs Act), professional self-regulation, provincial instruments (e.g., regulation of unfair business practices) and jurisprudence. We then used systematic internet searches to collect a sample of SCBI marketing claims by identifying websites of clinics operating in Canada that offer SCBIs for non-standard of care interventions. We subsequently analyzed how different categories of claims commonly found in that sample would likely be evaluated under the most relevant avenues of enforcement.

**Results:** Canada has reasonably strong truth-in-advertising and consumer protection regulation to govern marketing practices, including health-related products and services such as SCBIs. Our analysis suggests that current marketing practices for at least some SCBIs in Canada are likely problematic, particularly when they are false or misleading in a material respect, present claims of safety and efficacy that are unsupported by appropriate evidence, fail to disclose material information or include inappropriate testimonials. There are various enforcement avenues available to address these concerns including criminal, civil proceedings and professional discipline, among others. However, the degree to which these options have been effectively employed to-date remains unclear. This research also identifies potential gaps or grey areas in existing oversight and enforcement that could be addressed in future policy development.

**Conclusion:** SCBIs are just one example of a growing trend where unproven, non-standard of care medical interventions are advertised to Canadians. Given their potential risks, there is a need for rigorous enforcement of existing standards as well as consideration of how oversight needs to evolve in response to today's changing contexts.

**Author Names:** Amy Zarzeczny, University of Regina; Barbara von Tigerstrom, University of Saskatchewan

## *Does Unmet Health Care Need Associate with Longer Stays in Hospital?*

Dr. Anat Ziv, UNB

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** There is some evidence that patients with chronic ambulatory care sensitive conditions are more likely to report a perceived unmet health care need, a commonly used indicator of inadequate access to care, and may delay seeking medical attention and experience adverse health outcomes.

The objective of this study is to examine the association between self-reported unmet health care needs among older Canadians and subsequent length of stays for potentially avoidable hospitalizations.

**Approach:** Data from the Canadian Community Health Survey linked longitudinally to the Discharge Abstract Database for 2007 to 2011. The target population was inpatients with primary diagnosis of chronic obstructive pulmonary disease, diabetes, or cardiovascular disease aged 45 years and over. Reasons for unmet need classified into three categories: limited availability of health care services, accessibility problems, acceptability problems related to personal preferences or circumstances of individuals. The outcome of interest is number of days in hospital. Poisson regression was used adjusting for sociodemographic variables, health behaviors, health status and year of survey.

**Results:** 14% of the inpatients who were diagnosed with chronic conditions reported an unmet health care need. According to Poisson regression model, patients reporting an unmet need had longer stays in hospital than those without reported unmet need if the unmet need were related to accessibility (rate ratio [RR] 1.29, 95% confidence interval [CI] 1.27-1.30) or perceived availability of primary health care (RR 1.54, 95% CI 1.52-1.56). There was no statistically significant relationship between reported acceptability and length of stay (RR 0.99, 95% CI 0.97-1.00). We computed average predicted values of length of stay in hospital and the results showed that inpatients with unmet need stay in hospital twice as long as inpatients without unmet need (5.6 days vs. 10.7 days).

**Conclusion:** The availability of linked survey and administrative data allow for new opportunities for assessment of the association between unmet need and the hospital burden of chronic diseases. Unmet need is associated with longer hospital stays and potentially poorer health outcomes, interventions that reduce unmet need of primary care seem important.

**Author Names:** Anat Ziv, UNB; Neeru Gupta, University of New Brunswick



## *Achieving Sustainable Development Goal 3 in Nigeria: Which sociocultural factors matter?*

Dr. Daniel Adeyinka, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Child survival is a major concern in Nigeria as it contributes 13% of the global under-five mortality. The objectives of this study were to: (1) identify the social determinants of mortality at neonatal, post-neonatal, and childhood periods; and (2) estimate the contributions of child, maternal, household, and community level factors on under-five mortality variations among communities in Nigeria.

**Approach:** Using the 2016/2017 Nigeria Multiple Indicator Cluster Survey, we analyzed data of a weighted nationally representative population of 30,960 live births delivered five years before the survey with multilevel multinomial logistic regression with the community as a random effect. The polytomous dependent variable—under-five mortality - was categorized as alive (reference), neonatal, post-neonatal and child mortalities, while the independent variables included those related to child-, maternal-, household- and community-level.

**Results:** Short birth interval, deaths of more than five children, and grand multiparity were associated with increased mortality risks across the neonatal, post-neonatal and childhood periods. While, skilled birth attendants during delivery was associated with an increased neonatal mortality risk, being female and singleton were associated with decreased mortality risk during neonatal and post-neonatal periods. Also, being a teenage mother was associated with increased neonatal and child mortality risks. The significant factors associated with reduced mortality risk at post-neonatal period were maternal secondary education and urban residence. Maternal affluence and contraceptive use lowered mortality risks in childhood period. While living in South-East and South-South regions of Nigeria lowered neonatal mortality risk, residence of North-West region had increased child mortality risk.

**Conclusion:** The government of Nigeria needs to focus on the barriers and facilitators operating throughout different childhood periods by implementing age-specific child-related strategies that may improve child survival in the communities, through “health-in-all policies”. Further studies are needed to explicate the influence of skilled birth attendants on neonatal deaths.

**Author Names:** Daniel Adeyinka, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan; Pammla Petruka, College of Nursing, University of Saskatchewan; Isaac Elon, Department of Paediatrics, Federal Teaching Hospital

## *Data Matters: Current State Of Quantitative Data Available For Family Medicine Workforce Planning In Canada*

Dr. Monica Aggarwal, College of Family Physicians of Canada/University of Toronto

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In Canada, there are many national and provincial/territorial data sources that collect information that is used to make decisions about family physician workforce planning. The College of Family Physician of Canada implemented the Family Medicine Professional Profile (FMPP), which outlines the responsibilities, work arrangements, and philosophy of family physicians. This study examined the state of quantitative data sources with respect to the characteristics, location, and scope of work of family physicians related to the FMPP.

**Approach:** National and provincial/territorial data sources were compared to physician characteristics, geography, and FMPP domains through a combination of key informant interviews and document review and analysis. In total, 66 key informant interviews were conducted with employees within data source organizations, primary care experts and leaders. Documents were collected from these organizations and were reviewed and analyzed in relation to data content, limitations and accessibility.

**Results:** There were 41 data sources with self-reported, administrative, and electronic medical record data on family physicians, in which 21 data sources had relevant and feasibly accessible information. However, there was no one data source that could provide information on physician characteristics, geography and the FMPP domains. Rather, there was significant variability in the data elements that were being collected across data source organizations. Although all data sources had limitations, access and linkage of data sources was possible with the use of unique identifiers.

**Conclusion:** In the absence of a single data source and variable definitions/measures for physician workforce planning, a measurement framework with a data collection strategy is needed to accurately describe the number, distribution, and work of family physicians. This framework/strategy should be developed in partnership with researchers, policymakers and stakeholders across Canada.

**Author Names:** Monica Aggarwal, College of Family Physicians of Canada/University of Toronto; Ivy Oandasan

## *Tinkering at the margins: evaluating the pace and direction of primary care reform in Ontario, Canada*

Dr. Monica Aggarwal, College of Family Physicians of Canada/University of Toronto

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Primary care reform has been on the political agenda in Canada and many industrialized countries; it is the foundation for health system transformation. Nevertheless, Canada lags behind other industrialized nations with respect to timely access, electronic medical record use and audit and feedback for quality improvement. This paper evaluates the pace and direction of primary care reform as well as the extent of resulting change in the organization and delivery of primary care in Ontario.

**Approach:** Qualitative and quantitative methods were used for this study. A literature review was conducted to analyze the core dimensions of primary care reform, the history of reform in Ontario, and the extent to which different dimensions are integrated into Ontario's models. Quantitative data on the number of family physicians/general practitioners and patients enrolled in these models was examined over a 10-year period to determine the degree of change that has taken place in the organization and delivery of primary care in Ontario.

**Results:** There are 11 core reform dimensions that individually and collectively shift from conventional primary care toward the more expansive vision of primary health care. Assessment of Ontario's models against these core dimensions demonstrate that there has been little substantive change in the organization and delivery of primary care over 10 years in Ontario.

**Conclusion:** Primary care reform is a multi-dimensional construct with different reform models bundling core dimensions in different ways. This understanding is important to assess the pace and direction of change in primary care. This conceptual framework can assist decision-makers, academics and providers in evaluating the pace of change in primary care.

**Author Names:** Monica Aggarwal, College of Family Physicians of Canada/University of Toronto; A. Paul Williams, University of Toronto

## *A model-based economic evaluation of psychedelic-assisted psychotherapy in British Columbia (PAP)*

Dr. Magda Aguiar, University of British Columbia

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**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** PAP is the professionally supervised use of substances such as psilocybin and lysergic acid diethylamide (LSD) to treat disorders that affect an individual's mental health and wellbeing such as post-traumatic stress disorder (PTSD), depression, anxiety and addictions. Previous studies found promising results on the efficacy and safety of PAP approaches. We aim to develop a model-based economic evaluation of further researching and implementing PAP in the context of British Columbia.

**Approach:** We will present the methods used to develop the model, alongside the relevant methodological and policy implications of considering such therapy to treat mental health disorders in BC. The model will assume the perspective of the health system and simulate long-term costs and benefits of PAP compared to standard care, as well as the costs associated with funding new high quality research to estimate the effectiveness of PAP in BC.

**Results:** PAP focuses on healing patients and it is likely to reduce the need for chronic use of pharmacotherapy and contacts with the health care system. Such characteristics are attractive to policy-makers in BC as they look for sustainable and cost-effective ways to address the challenges that mental health disorders pose to the population. On the other hand, considerations must be made regarding the up-front costs linked to publicly funding further research, training and the establishment of PAP centers. Besides implementation and treatment costs, the proposed model will also include costs of future research needed to reduce key uncertainties in the evidence of cost-effectiveness.

**Conclusion:** The implementation of publicly funded PAP to treat mental health disorders is a novel approach to the management of mental health disorders. Our findings will assist policy-makers in deciding on whether there is an economic justification to spend public resources on phase three clinical trials for these emerging medicines.

**Author Names:** Magda Aguiar, University of British Columbia; Mark Harrison, University of British Columbia; Gerald Thomas, BC Ministry of Health

*Prevalence of Pulmonary Hypertension and Outcomes in Patients Undergoing Percutaneous Closure of Atrial Septal Defect:  
A Systematic Review and Meta-Analysis*

Ms. Selai Akseer, University of Toronto

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Atrial septal defect (ASD) is one of the most common forms of congenital heart disease. If left untreated, significant shunts may increase the risk of developing pulmonary hypertension (PH). PH may adversely affect patient outcomes with or without ASD closure. We aimed to investigate the prevalence of PH and the effect of percutaneous ASD closure on PH and other outcomes.

**Approach:** EMBASE, MEDLINE, and Cochrane databases were systematically searched for published literature from inception to July 2019. Studies reporting PH prevalence or mean systolic pulmonary arterial pressure (sPAP) before and after percutaneous ASD closure in adult population were included. We conducted meta-analyses to obtain summary estimates for PH prevalence and mean sPAP.

**Results:** Fifteen articles with a total of 1,073 patients met the eligibility criteria. The mean follow up time in the studies ranged from 10 to 60 months. Both PH prevalence and mean SPAP levels decreased in all studies after procedure. The pooled PH prevalence decreased from 44% (95% CI 29% to 60%) to 18% (95% CI 8% to 27%). The overall standardized mean difference in sPAP was 1.12 (95%CI 0.81 to 1.44) and 1.62 (95%CI 1.00 to 2.23) in cohort and case series studies respectively indicating a large effect. A high degree of heterogeneity was noted between the studies.

**Conclusion:** This review found that both PH prevalence and mean sPAP decrease post ASD closure. Larger prospective studies with consistent PH definitions and more valid measurement modalities are warranted to confirm these findings.

**Author Names:** Selai Akseer, University of Toronto

*The association between advanced practice nursing roles and patient outcomes in adults following cardiac surgery: a systematic review of randomized controlled trials*

Ms. Li-Anne Audet, McGill University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Empirical findings have shown significant associations between advanced practice nurse roles (nurse practitioner, clinical nurse specialist) (APN) and higher patient satisfaction, shorter length of stay, and safer glycemic control. However, no review as retrieved the benefit of APN within postoperative cardiac setting, in which patients are at great risk of complications. Objective: This review aims to synthesizes the findings of the benefits of the APN role and patient-related outcomes, within a postoperative cardiac surgery setting.

**Approach:** A systematic review of the literature following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines was conducted. An electronic data search was conducted in several databases, with the collaboration of a librarian. First descriptors were introduced following the three main research terms (e.g.: advanced practice nursing, patient outcomes and cardiac surgery). RCT comparing healthcare interprofessional teams with the integration of the APN and usual care were retrieved. Several patient outcomes focusing were retrieved, such as clinical outcomes (e.g.: medications, ventilator-acquired pneumonia), psychological outcomes (e.g.: patient satisfaction), social outcomes (e.g.: healthcare access) and familial outcomes (e.g.: family's satisfaction).

**Results:** Out of 2,916 articles, 14 studies were retrieved. A qualitative synthesis was conducted. Our preliminary findings suggest that models of care with APN role are associated with shorter length of stay, lower readmission rates and higher patient satisfaction. Indeed, authors suggest that the APN roles spend more time with patients and families and incorporate psychosocial and clinical components into patient postoperative recovery, including aspect such as financial status, healthcare resources and coping strategies.

**Conclusion:** This review suggests that APN role have an impact on patient-related outcomes, such as patient satisfaction and length of stay. Avenues for future research must examine further patient-relate outcomes, in order to identify which outcome are the most sensitive to APN role and understand the underlying mechanism of these associations.

**Author Names:** Li-Anne Audet, McGill University

## *Supporting rural seniors' engagement in health research, planning and policies: Findings from a rural cognitive health study*

Dr. Juanita Bacsu, Faculty of Kinesiology and Health Studies & SPHERU, University of Regina

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** The need for patient and public engagement in health research, planning and policies is well-documented. As patients, rural seniors often experience unique healthcare barriers related to limited public transportation, finances, and access to health and support services. This presentation aims to: 1) Identify key strategies for supporting rural seniors' engagement in health research, planning and policies; and 2) Offer insight to new researchers, health professionals and policy-makers engaging in community-based research with rural seniors.

**Approach:** Prior to beginning our study, a community advisory team was established to provide local input throughout the research process. A memorandum of understanding was collaboratively developed with the community partners to identify shared goals, responsibilities, and deliverables. Guided by community-based research principles, data were collected through participant observation and interviews with 42 seniors in rural Saskatchewan. Data were compiled and coded using thematic analysis. Community workshops were held to ensure the study's findings accurately reflected the seniors' views. While our study focused on cognitive health, key themes emerged to support rural seniors' engagement in health research, planning and policies.

**Results:** Four themes emerged including the importance of: conducting research that is community relevant and addresses local challenges identified by the rural seniors; building trust and maintaining partnerships within the rural communities (e.g., developing a community-advisory team, spending time in the communities, having a toll-free telephone number, and traveling to participants' homes); using flexible data collection methods (e.g., changing from closed to open-ended interviews, and simplifying study terminology from "cognitive health" to "brain health"); and developing community and culturally-informed knowledge translation and exchange strategies (e.g., distributing information at "coffee row", local newspaper articles, sharing information at hair salons and bowling alleys, and organizing community workshops).

**Conclusion:** Only through the development of collaborative research and engagement strategies can we improve equitable access to health services and supports for rural older adults. Findings from this study can help to support rural older adults' engagement in health research, planning and policies.

**Author Names:** Juanita Bacsu, Faculty of Kinesiology and Health Studies & SPHERU, University of Regina; Bonnie Jeffery, Faculty of Social Work, University of Regina; Shanthi Johnson, University of Alberta; Nuelle Novik, University of Regina; Thomas McIntosh, University of Regina; Paul Hackett, University of Saskatchewan; Marc Viger, University of Saskatchewan

## *Interventions to reduce dementia-related stigma: Improving dementia care policies, programs and practices*

Dr. Juanita Bacsu, Faculty of Kinesiology and Health Studies & SPHERU, University of Regina

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Recently, Canada published a national dementia strategy that addressed the need to reduce stigma (stereotypes, exclusion, discriminatory practices) and improve quality-of-life for people with dementia. In long-term care, seniors with dementia often experience an increased use of restraints and an over-reliance on anti-psychotics without psychosis diagnosis. This presentation aims to: explore literature on interventions to reduce dementia-related stigma; and identify key components of existing anti-stigma interventions to inform future dementia-care policies, programs and practices.

**Approach:** A scoping review was conducted on interventions to reduce stigma of dementia from 2008 to 2018. Electronic databases searched included: PubMed, Medline, CINAHL, Web of Science, PsycINFO, Google Scholar, and Social Services Abstracts. From 744 initial records, 21 articles were included in the review. A stigma reduction framework was used for conceptualizing the different interventions: contact (interacting with people living with dementia to challenge stereotypes of dementia), education (replacing myths with facts and accurate information), mixed (education and contact interventions), and protest (confronting negative perceptions of people living with dementia).

**Results:** A variety of education, contact and mixed interventions were found. Education interventions ranged from community presentations to university seminars. Key components of education interventions included: creating culturally-tailored information for specific groups, sharing facts to replace myths, and using different mediums (print, television) to improve dementia knowledge. Contact interventions ranged from intergenerational ballet to an orchestra group. Key components of contact interventions included: partaking in purposeful-learning, highlighting the accomplishments of people with dementia, and engaging in team-building. Mixed interventions included an educational event with keynote speakers who were people living with dementia, and learning modules combined with clinical rotations for nursing students. Key elements of mixed interventions included involving people with dementia as educators, and experiential learning through clinical rotations.

**Conclusion:** Reducing dementia-related stigma is essential for improving long-term care practices, optimizing cognitive health services, and promoting timely dementia diagnosis. Findings from our study can help to inform the development of anti-stigma interventions and improve dementia-care policies, programs, and practices.

**Author Names:** Juanita Bacsu, Faculty of Kinesiology and Health Studies & SPHERU, University of Regina; Marc Viger, University of Saskatchewan; Shanthi Johnson, University of Alberta



**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** The Neurosequential Model of Therapeutics (NMT) is a trauma informed framework for providers to approach working with at-risk children, however outcome data from evaluations of NMT implementations are sparse. The Pathways to Healing program, grounded in NMT, was implemented in the Comox Valley of British Columbia to support vulnerable mothers and children. The goal of this project is to assess the literature surrounding NMT and to develop a logic model to support future evaluation.

**Approach:** A literature review of NMT and framework implementations was undertaken with identification of key known and missing parameters of relationships between the approach and individual, family, community and system related outcomes. A logic model illustrating key program inputs, outputs and indicators was developed through iterative and collaborative sessions with program leaders, observing an integrated knowledge translation approach.

**Results:** Considerable evidence links childhood exposure to trauma and poor outcomes, both short and long-term. There are important gaps in the literature regarding trauma informed frameworks, demonstrating the need for greater evaluation of social program implementations on health and functional outcomes. Development of the logic model demonstrates key indicators that can be used to measure NMT related intervention effectiveness.

**Conclusion:** Multifaceted social programs such as Pathways to Healing, demonstrate great potential as approaches for ameliorating health inequities. More effort is needed to evaluate their impacts to guide allocation of scarce health care resources and to bridge the gap between knowledge and practice.

**Author Names:** Jonathan Beaumier, UBC Centre for Health Services and Policy Research; Fritha Munday, Pacific Evaluation; Yonabeth Nava de Escalante, Pacific Evaluation

## *General Surgery and Endoscopy Referrals Patterns in Newfoundland and Labrador (NL)*

Mrs. Elnaz Bodaghkhani, Memorial University of Newfoundland

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Inter-hospital transfers have been found to be associated with increased risk, such as those due to delays in care and the possibility of an in-transit critical event. The objective for this study is to profile surgical referral patterns in NL in order to identify inefficiencies and investigate whether significant numbers of general surgery and endoscopy procedures referred to Tertiary Care Centers could have been performed at SCCs nearer the patient's home.

**Approach:** This is a cross-sectional study using 5 years of hospital administrative data. We will describe overall general surgery and endoscopy referral patterns in NL also map patterns using geospatial software. We will conduct linear regression to compare types of surgical interventions and characteristics of patients living outside the St John's capital region who were referred for general surgery/endoscopy at TCC's in St. John's to those who received surgery in SCCs nearer their homes, with a special interest in the northern Labrador-Grenfell Region.

**Results:** Over 82, 000 general surgery and endoscopy procedures were performed between 2013 and 2017 in Newfoundland and Labrador, and 8.1% of the patients were residents of Labrador-Grenfell health region. Approximately 10% of those in the Labrador-Grenfell region were transferred to TCC for their general surgery procedures. Further analysis is in progress and will be ready for presentation at the conference.

**Conclusion:** Evaluation of general surgery and endoscopy referrals patterns will allow for investigation of efficiencies in the referral process and help identify areas in improvement in order to inform future resource allocation and referral planning. This is the first step to finding solutions for cost-effective, high-quality surgical care.

**Author Names:** Elnaz Bodaghkhani, Memorial University of Newfoundland; John Knight, Primary Healthcare Research Unit; Shabnam Asghari, Memorial University; Sivaruban Kanagaratnam, Memorial University

## *Factors impacting the relationship between nursing human resources and patient safety on the care unit*

Ms. Jolianne Bolduc, Université de Montréal

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** The causes of adverse events, the primary indicator operationalizing patient safety in Canada, are multiple. Nevertheless, the WHO has recognized the responsibility of nursing human resources for these events. However, there is no consensus in the scientific literature on the factors in health care institutions and nursing practice that have a real impact on patient safety in acute care units. The purpose of this presentation is to outline these factors based on a scoping review.

**Approach:** The purpose of a scoping review is to conduct a synthesis of knowledge, including all types of literature needed to answer the research question, in order to link together the main concepts of the research question. The framework of Arksey and O'Malley, adapted by Levac et al (2010) was used to define the six steps of this scoping review. The research question is: What are the factors impacting the relationship between nursing human resources and patient safety on the care unit? Several terms were used in four electronic databases (CINAHL, MEDLINE, PubMed, and Cochrane) and grey literature.

**Results:** According to the articles reviewed, three levels of factors appear to be important to be used in these studies: patients, the care team and the organizational level, including the characteristics of care units or hospitals. The patient level is conceptually consistent in the literature. However, operationalization differs in several studies. The level of nursing care teams does not seem to converge towards the same factors. Several factors are added to control for the association between nurse staffing and patient safety, but on an arbitrary basis, such as nurses' level of experience, employment status, overtime, private agency nurses, and so on. Finally, the organizational level depends on the unit of analysis of the studies listed (operationalization of variables at the care unit or hospital level).

**Conclusion:** Access to data appears to have a large impact on the level of precision of the factors included in the literature. This scoping review also allowed some of the factors to be adapted to the Canadian context, given that several nurse staffing studies are being conducted in the United States.

**Author Names:** Jolianne Bolduc, Université de Montréal; Roxane Borgès Da Silva, Université de Montréal

*Scoping Review of the literature about Internationally Educated Health Professionals Pursuing Alternative Career Paths*  
Ms. Christiane Boroto, University of Waterloo : School of Public Health and Health Systems

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** Internationally Educated Health Professionals (IEHPs) immigrate from low-income to high income countries in the pursuit of better working conditions and better quality of life. Upon immigration, however, IEHPs may face challenges obtaining their professional licensure and consequently may decide to pursue an alternative career path. The aim of the paper is to summarize what we know about internationally educated health professionals pursuing alternative career paths and identify gaps in this research area.

**Approach:** The paper utilized a scoping review methodology developed by Arksey and O'Malley (2005) to help summarize the amount and type of literature focusing on Internationally Educated Health Professionals pursuing alternative career paths. The databases used in conducting the scoping review were CINAHL PubMed, SCOPUS, and Sociological Abstracts. The inclusion criteria consisted of articles published in English, articles published between 2010 and 2019 and articles published in North America, Europe, and Australia. The data was summarized thematically and quantitatively.

**Results:** 795 articles were identified in the Scoping Review. Out of the 795 articles, 780 articles were excluded and 15 articles met the inclusion criteria. The literature addresses the alternative career paths nurses, physicians, and dentists pursue. Most of the literature on IEHPs pursuing alternative career paths were qualitative studies. Additionally, most of the literature focused on nurses and physicians. Additionally, it also mentions the reasons why IEHPs pursue alternative career paths. Some of the reasons include previous education, test scores and financial constraints. Furthermore, the literature mentions how the complex registration process hinders internationally educated health professionals from obtaining their professional licensure.

**Conclusion:** There is a lack of quantitative studies focusing on internationally educated health professionals pursuing alternative career paths. Investing in quantitative studies enables policy makers to identify the scope of the problem and motivate them to implement policies to support the needs of internationally educated health professionals.

**Author Names:** Christiane Boroto, University of Waterloo : School of Public Health and Health Systems ; Elena Neiterman, University of Waterloo

## *Utilization of the Québec online appointment platform - "Rendez-vous Santé Québec"*

Dr. Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** In 2018, the Ministry of Health of the province of Quebec implemented a platform enabling patients to book medical appointments online, through a free web platform "Rendez-vous santé Québec" (RVSQ). The objective of this study was to describe the utilization of the system by primary care providers and patients in the first year following the provincial deployment.

**Approach:** We performed a longitudinal descriptive analysis of usage data provided by the Ministry of Health from June 1st 2018 to May 31st 2019, to describe the adoption and usage both by professional (offer of an availability) and patients (booking). Descriptive statistics were calculated per clinic, professional, and patient per administrative region. Number of registered users, number of time slots offered and booked, type of slots offered (open to the general public or only for registered patients), per week were calculated.

**Results:** From the 1,315 clinics in Quebec, 383 were registered to the service but only 73 (19%) were actively offering slots (in the past 3 months) for a total of 707 clinicians. Overall, a total of 283,006 slots were proposed and 280,001 appointments (leading to a medical consultation) were booked, for 176,903 distinct patients. Five regions (out of 18) were active in offering slots in 2019. Overall, an average of 315 slots were offered per week per region during the whole year, with the most active region offering an average of 2,934 slots per week in 2019. Most slots were offered for an appointment in the next 24 hours (urgent appointment), and for the general population (not only registered patients with the GP).

**Conclusion:** Overall, a minority of clinics were actively using the RVSQ platform, and the adoption was very heterogeneous by region. The vast majority of the offer was focused on urgent consultations. Further research should investigate how to facilitate the integration of patient-centered online booking in the management of primary care clinics.

**Author Names:** Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal; Aude Motulsky, Université de Montréal; Marie-Pierre Moreault, Department of Management, Evaluation & Health Policy, School of Public Health, Université de Montréal, Montreal, Canada; Marie-Pierre Gagnon, Faculté des sciences infirmières; Claude Sicotte, Université de Montréal; Tibor Schuster, McGill University

## *Using Kingdon's Framework to Analyze Canada's Refugee Health Coverage*

Ms. Amelia Boughn, McMaster University

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Canada is a country built on immigration. During the refugee crisis following World War Two, the government created the Interim Federal Health Program (IFHP), which provided comprehensive health care to all refugees and asylum seekers. In 2012, the policy was replaced with a less comprehensive coverage system, only to be reinstated by the Trudeau government in 2016. Our objective was to determine how and why the IFHP policy reached the government agenda in 2016.

**Approach:** Kingdon's Framework was used to analyze this policy in the agenda-setting stage. The context surrounding the prioritization of the IFHP in 2016 was examined through each of the policy, politics, and problem streams to determine the various factors which converged to form a window of opportunity for the IFHP. We then identified significant actors involved and determined a policy entrepreneur. We examined our results in the current domestic and international climates to determine what factors might lead to the IFHP, or refugee health policies in other countries, once again reaching the government agenda.

**Results:** Our analysis of this policy yielded several results:

1. The politics stream has historically played a vital role in getting the IFHP onto the agenda. In the 2015 federal election, the Liberals campaigned on a promise to return the IFHP to its pre-2012 state, and Justin Trudeau acted as a policy entrepreneur for the IFHP in 2016 after his Liberals were elected to a strong majority
2. Global crises have acted as strong components of the problem stream for this policy issue. The government first created the IFHP during the post-WWII refugee crisis and the 2016 amendments came during the Syrian Civil War.
3. The policies stream was strengthened by strong research reports documenting the positive impact the IFHP had historically had on the health of refugees.

**Conclusion:** The volatile problems and politics streams indicate that the IFHP may reach the agenda again soon, as the strong Liberal majority of 2015 has recently become a much weaker minority government. Internationally, refugee health exists in a larger, values-entrenched narrative about nationalism, human rights, liberty, and nation-state borders.

**Author Names:** Amelia Boughn, McMaster University; Mohamed Hassan, McMaster University

# *Disseminating primary health care research findings in public libraries: an empirical qualitative study with citizens in Quebec*

Dr. Francesca Brundisini, Université Laval

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**Category:** Poster

**Primary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Strategies for actively disseminating primary health care research findings are increasingly focusing on active exchanges of knowledge with citizens, i.e. the beneficiaries of care. Recent studies show that little is known about knowledge exchange with the public in non-clinical settings. To reduce this gap, this study aims at empirically exploring what knowledge Quebecois citizens value in a dissemination intervention held in public library networks.

**Approach:** We adopted a qualitative interpretative descriptive methodology to inductively capture a collection of values that inform Quebecois citizen's understanding and conceptualization of knowledge in public dissemination dialogue sessions. To do so, a multidisciplinary committee comprised of researchers, public library officials, patient partners, communication specialists (CS), and physicians designed a 1.5-hour interactive workshop to present research evidence in public libraries (45min-presentation + 45min-knowledge exchange). The workshop content focused on potentially inappropriate prescriptions among the elderly. A physician conducted the workshop and a CS moderated the knowledge exchange session. The exchange sessions were then recorded and transcribed for Nvivo.

**Results:** In total, 362 public participants, 18 physicians, and 6 SCS participated in 23 interactive workshops. Most citizens were retired women with a mean age of 64. Following their interaction with the research evidence, citizens greatly valued informed decision-making, prioritizing access to accountable, trustworthy, and transparent expert knowledge while respecting patient's freedom of choice. Choice was framed as both access to expert and empirical evidence-based sources of knowledge as well as participation in the prescription decision-making process. Physicians and CS prioritized scientific research evidence and pathophysiological sources of knowledge, while also including knowledge intended as expert opinions, professional and credibility values, while invoking patients' autonomy in the shared decision-making process.

**Conclusion:** These preliminary findings offer insights into the values, that together with evidence, should inform dissemination interventions with the general public. Identifying and describing values help build an understanding among those who hold different views and devise a dissemination strategy that targets the general public in a clear and effective way.

**Author Names:** Francesca Brundisini, Université Laval; Hervé Zomahoun, Quebec SPOR Support Unit; Maude Laberge, Université Laval; José Massougbodji, Quebec SPOR Support Unit; France Légaré, Laval University; Genevieve David, 1) Centre de recherche du CHUM, 2) École nationale d'administration publique; Valerie Borde, Declic; Cynthia Cameron, Université Laval; Jasmine Sawadogo, Quebec SPOR Support Unit; Hélène Moisan, Bibliothèque de Québec; Jean-Sébastien Paquette, Université Laval; Zamzam Akbaraly, Université de Sherbrooke; Léa-Kim Châteauneuf, Direction des bibliothèques, Service de la culture; Léa Langlois, CERSSPL; Priscille-Nice Sanon, Centre intégré de santé et de services sociaux de la Montérégie-Ouest; Sarrah Osama, Direction des bibliothèques, Service de la culture - Ville de Montréal ; Julie Paradis, Direction des bibliothèques, Service de la culture - Ville de Montréal ; Lionel Adisso, CERSSPL; Mame Awa Ndiaye, Quebec SPOR Support Unit

## *Describing trends in the quality of health care and services for men and women living with dementia in rural and urban areas in Quebec*

Ms. Tammy Bui, McGill University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** As the Canadian population ages, challenges emerge with the quality and healthcare utilization of services for persons living with dementia (PWD). There is evidence that points to how sex/gender differences and rurality influence the quality of care and healthcare utilization. However, how sex and rurality relate to dementia and healthcare utilization is less-known. The aims of this study are to describe the quality of dementia care and healthcare utilization among PWD by sex and rurality.

**Approach:** The study will employ a repeated annual cross-sectional cohort design using linked administrative databases from the Institut national de santé publique du Québec. All incident cases of dementia in community-dwelling persons aged 65 and over occurring between April 1st and March 31st for each year will be included. Dementia diagnosis will be ascertained using a validated algorithm. Rurality will be defined by Statistical Area Classification types and sex will be categorized from the administrative data. We will use binomial negative regression models to examine the relationship between sex and geographical setting on healthcare service use.

**Results:** The data will be stratified by sex and rurality. We will present trends over 15 years in quality of care and healthcare utilization indicators for 237259 people. Of these people, 62.7% are women and 20.2% live in rural areas. Quality of care indicators are: most regularly seen doctor (Overall UPC index), hospitalization for ambulatory care sensitive conditions, continuity of care (Bice-Boxeman index), degree of coordination (30 days hospital readmission), first recording of dementia diagnosis in primary care, potentially inappropriate medication (e.g. Benzodiazepines, anti-psychotics), place of death. Healthcare utilization indicators are: emergency department visits, hospitalizations, alternate level of care, visits to primary care physicians and cognition specialists, long-term care admission and mortality.

**Conclusion:** Addressing the gaps in the quality of care and healthcare utilization in PWD by sex and rurality is essential to inform decision-makers for the implementation of adequate policies and promote equity in dementia care and ultimately improve the health among PWD.

**Author Names:** Tammy Bui, McGill University; Isabelle Vedel, McGill University; Genevieve Arsenault-Lapierre, Family Medicine Department of McGill University; Nadia Sourial, Department of Family Medicine, McGill University; Claire Godard-Sebillotte, McGill University; Louis Rochette, Institut National de Santé Publique du Québec



## *Qualitative exploration of TAY, family, and provider perspectives on the supports needed for access to MHA care*

Ms. Hinaya Cader, Family Navigation Project

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Transitional-aged youth (TAY) are at a vulnerable stage of their development in which mental health and/or addiction (MHA) issues tend to manifest and/or increase in severity. These youth also tend to find themselves stuck in the gap between child and adult MHA services, often resulting in sub-optimal access to and transition through MHA services. System Navigation may be one way to close this and other system gaps and improve service utilization and supports for TAY.

**Approach:** This is a descriptive qualitative study of youth, family, and provider perspectives on their experiences with accessing MHA care and transition supports for TAY. Focus groups and semi-structured interviews are being conducted with up to approximately 72 participants with varying levels of familiarity with navigation. Participants are asked about their experiences with navigating the MHA system, their perceptions of the barriers and facilitators to accessing care for TAY with MHA concerns, and their views on the role of navigation services in supporting access to and transitions in care.

**Results:** Anticipated study results will provide a better understanding of the needs of TAY and their families in relation to accessing and transitioning within the MHA system and improving MHA outcomes. Results will include the views of service providers and decision makers on the current state of access to and transitions within MHA care, including perceived barriers and/or facilitators to accessing MHA care specifically for the TAY population. The potential role of system navigation in improving TAY's access to and transitioning within the MHA system will also be included in the findings to be discussed.

**Conclusion:** This information will be useful in examining how navigation can be meaningful in mitigating the challenges faced by TAY and their families when seeking help for MHA issues. It will also be valuable in exploring how navigation can inform the transformation of the MHA system to enhance access to care.

**Author Names:** Hinaya Cader, Family Navigation Project; Roula Markoulakis, Family Navigation Project; Anthony Levitt, The Family Navigation Project

## *Health system use by lonely older adults in supportive living settings*

Dr. Stephanie Chamberlain, University of Alberta

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Supportive living (SL) is a residential setting meant to provide independence to older adults and is implemented differently across Canada. In Alberta, publicly funded SL is the fastest growing continuing care setting; however, there are concerns about its ability to meet clients' needs. Few social or recreational activities are offered, raising concerns about loneliness and its effects. This study will assess the prevalence of loneliness in Alberta SL and lonely SL residents' health system use.

**Approach:** This population-based, retrospective cohort study of all SL residents in Alberta will use Resident Assessment Instrument for Home Care (RAI-HC) assessment linked to health service data in Alberta from April 1, 2013 to March 31, 2018. SL residents will be classified as lonely based on a RAI-HC item. Prevalence and demographic characteristics of loneliness will be reported over time and by sex. In the year following assessment, we will identify the frequency of transitions (nursing home, hospital, death). Using multi-state regression models for each resident state (lonely, not lonely) we will estimate the adjusted odds of health system transitions.

**Results:** We anticipate that our results will highlight differences in loneliness over time and between women and men living in SL settings. Our findings will describe and compare transitions to hospital, nursing homes, and death for SL residents defined as lonely. Multi-state models will estimate the effects of loneliness on the likelihood of transitions. We anticipate that these findings will point to areas in older adults' social relationships that could be intervened on to optimize their use of available health services.

**Conclusion:** Findings from this project will identify differences in loneliness between women and men in SL. This project will serve as a baseline from which to identify, develop, and test interventions to reduce unnecessary and potentially burdensome transitions across continuing care settings.

**Author Names:** Stephanie Chamberlain, University of Alberta; Susan Bronskill, ICES; Andrea Gruneir, University of Alberta

## *Exploration of the Role of Public Health Nurses in Intersectoral Collaboration for Health Equity in Manitoba*

Ms. Vicki Charski, University of Manitoba

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Indigenous Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** There is strong theoretical and professional support for the use of intersectoral collaboration to address health inequities. However, there is a paucity of evidence to support the degree to which this strategy is being used by public health nurses (PHNs) in Manitoba. The objectives of this study are to explore this role in PHN practice by providing examples; and exploring the facilitators, barriers and outcomes related to the social determinates of health.

**Approach:** A mixed method design will be used. An online survey of PHNs in Manitoba will determine the proportion of PHNs who have experience with intersectoral collaboration, the frequency of use, current examples, facilitators and barriers, and the impact on health equity. Semi-structured focus group interviews with PHNs in three diverse geographic and demographic regions of Manitoba (e.g. urban, rural southern, northern), will be conducted by telephone or Zoom technology.

**Results:** The results will illuminate the facilitators and barriers within individual organizations, and within the broader social-political context, that influenced intersectoral collaboration. They will also elucidate perspectives regarding the strengths and weaknesses associated with intersectoral collaboration in PHN practice, in particular for improving health equity for individuals who are experiencing structural barriers to health.

**Conclusion:** This research will identify the degree to which intersectoral collaboration is being used by PHNs in Manitoba, and the need for additional organizational supports to support this role in PHN practice. Furthermore, the findings can be used to strengthen this role in PHN practice.

**Author Names:** Vicki Charski, University of Manitoba; Benita Cohen, University of Manitoba

# *Adopting an anchor institute mandate within health care organizations in Ontario: A qualitative study exploring health system leaders' perspectives on the feasibility*

Ms. Nada Dali, University of Toronto

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Anchor institutions are public entities that are permanent and large enough to have a substantial effect on the local economy, health and the environment. These organizations leverage their economic power and human resources to promote equity through multi-level strategies; hiring, training, and procuring locally. Key objectives are to understand current status quo on hiring, procuring and other social and environmental practices/policies and perspectives on feasibility of adoption.

**Approach:** I will conduct document analysis, surveys, and interviews with health system and organization leaders on the feasibility of adoption within a Canadian context. Specifically, I will go through health care organizations annual reports and sustainability, procurement, diversity and hiring policies as well as surveys to supplement the data. I will also carry out 30 to 40 interviews with leaders of the Ontario Hospital Association and Ontario Health Team leaders. These interviews will allow for an understanding of the current status quo and how their current practices benefit or overlook these communities and allow for an understanding of the feasibility.

**Results:** I plan to publish the results of this work as a framework to guide the development and implementation of adopting an anchor institutes mission/strategic plan. Creating a sustainable health system requires social, economic and environmental factors to be accounted for and addressed. This can include economic investments; hiring, training, and procuring locally and sustainably as well as improving access to affordable housing and other social determinants of health. The results of the study will help to inform future development of policies and practices that address community needs and promote population health. Ultimately, this can build a movement for broader social issues that are often siloed to address community social, economic and environmental needs.

**Conclusion:** Addressing upstream factors such as the social and ecological determinants of health can prevent non-communicable diseases caused by social and environmental factors (eg. poor income/employment, pollution etc.). The proposed research identifies a missed opportunity for organizations to address upstream factors and reduce health inequities within communities they reside in.

**Author Names:** Nada Dali , University of Toronto

## *Patient engagement in the pre-implementation of a case management intervention for chronic illnesses and complex care needs*

Ms. Alya Danish, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** There is a growing need for consistent reporting and theoretical justification of strategies to engage patients in health services research in the Canadian context. Such information is necessary to be able to translate patient participation into meaningful population and health system outcomes. Our aim is to detail the activities undertaken to engage patients in the pre-implementation phase of research on a case management (CM) intervention for individuals with chronic illnesses and complex care needs.

**Approach:** This research is part of a 4-year multiple-case embedded study on a CM intervention implemented in ten primary care clinics across five provinces (NFL, NS, NB, QC, SK). Patient engagement is one component of the research, with activities co-planned and implemented based on the CIHR's SPOR principles of inclusiveness, support, mutual respect, and co-building. We conducted a document review and analysis as commentary from a case study perspective (Miller & Alvarado 2005), and participant observation of patient engagement activities during the first 18 months of the study, including the design and preparatory phase prior to implementation of the CM intervention.

**Results:** To date, ten patient partners (PPs) have joined the research team. Preliminary results indicate that approximately 23 different activities have been implemented to promote patient engagement in research. These activities were thematically organized into three categories based on a framework rooted in program logic for the architecture of patient and public involvement (Wilson et al. 2015): processes, include early involvement of experienced PPs and role definition for all team members; resources, include providing training and financial compensation; and relationships, include providing ongoing support and supervision, and encouraging PPs to share experiential knowledge. Patient engagement activities will be detailed at the CAHSPR conference and their link to the context of the CM intervention and its intended outcomes will be described.

**Conclusion:** This research builds the evidence base for patient engagement in research. It describes the potential contribution of patient engagement to the intended outcomes of a CM intervention. Anchored in a program logic perspective, our results will support conceptual development and a theoretical approach to understanding patient engagement.

**Author Names:** Alya Danish, Université de Sherbrooke; Maud-Christine Chouinard, Université du Québec à Chicoutimi; Mike Warren, Memorial University Newfoundland; Véronique Sabourin, CIUSSS du Saguenay-Lac-Saint-Jean; Kris Aubrey-Bassler, Memorial University; Frederick Burge, Dalhousie Family Medicine; Shelley Doucet, University of New Brunswick; Vivian Ramsden, University of Saskatchewan; Monique Cassidy, University of New Brunswick - Saint John; Brian Condran, Maritime SPOR SUPPORT Unit; Mireille Lambert, CIUSSS du Saguenay-Lac-Saint-Jean; Carla Penney, Memorial University Newfoundland; Donna Rubenstein, Dalhousie University; Roger Stoddard, University of New Brunswick - Saint John; Catherine Hudon, Université de Sherbrooke; Judy Porter, Dalhousie University

## *Adoption of online booking in primary care*

Mrs. Genevieve David, 1) Centre de recherche du CHUM, 2) École nationale d'administration publique

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Patient-centered online medical booking is gaining popularity in Canada. In 2018, the Quebec Ministry of Health launched a platform for online booking for all types of appointment in primary care. Private platforms also exist and can be integrated within the electronic medical record of clinics. The objective of this study was to evaluate the adoption of these various platforms by patients, as well as their experience with booking an appointment in primary care.

**Approach:** An online survey was conducted in November 2019 with a representative sample of the adult population of Quebec who had seen a primary care provider in the past three months. The survey was developed based on the technology acceptance model (TAM). It also included satisfaction and usability scale (SUS), and was adapted through exploratory interviews with key stakeholders. The first version was pilot tested with 5 respondents and was available in French and English. It was distributed through Leger Marketing online groups.

**Results:** A total of 2003 individuals answered the survey (52% men, aged 18-34 [29%], 35-54 [34%], 55+ [37%]). Overall, 15% of the respondents had used online booking for a medical appointment (past 3 months), through a private (11%) or public (2%) platform. Among non-users, most respondents knew it was possible to book appointment online (58%). Two main reasons for not using online booking were: 1) not offered by their family doctor (46%) or 2) prefer to talk with administrative personnel (35%). The vast majority of users intended to continue to use online booking (88%), found it easy to use (86%) and very useful (84%), and would recommend it (86%). Mean SUS scores were 77 (public platform) and 84 (website of the clinic) when booking an appointment.

**Conclusion:** Adoption of online booking by patients is increasing, but seems impeded by the adoption by clinics. However, when individuals can make an appointment online, they seem very satisfied with their experience, consider using it again, and think it allows obtaining an appointment faster.

**Author Names:** Genevieve David, 1) Centre de recherche du CHUM, 2) École nationale d'administration publique; Aude Motulsky, Université de Montréal; Delphine Bosson-Rieutort, École de Santé Publique Université de Montréal; Marie-Pierre Moreault, Department of Management, Evaluation & Health Policy, School of Public Health, Université de Montréal, Montreal, Canada; Marie-Pierre Gagnon, Faculté des sciences infirmières; Claude Sicotte, Université de Montréal; Tibor Schuster, McGill University

## *The Impact of Patient-Oriented Research Within a Primary and Integrated Health Care Research Network*

Mr. Jamie DeMore, McGill University

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**Category:** Poster

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** The Primary and Integrated Health Care Innovations (PIHCI) Network is a pan-Canadian network of networks formed to improve health and equity for individuals across the life course, but there is little evidence of the impact. The main objectives of this research project are: 1) to establish the optimal logic model to evaluate impact; 2) to map the network's activities to the logic model; and 3) to use organizational social network analysis to evaluate stakeholder engagement.

**Approach:** The research design of this study will be an Explanatory Sequential Mixed Methods design. The first phase will be a cross-sectional survey design and the second phase will be a qualitative descriptive design which will entail at least two deliberative stakeholder consultations with various stakeholders in the PIHCI network. One deliberative consultation will be conducted with researchers, patient partners, and clinicians. A separate consultation will engage decision-makers from the PIHCI network. The qualitative data will be analyzed using thematic analysis and the quantitative data will be analyzed using social network analysis and various other statistical calculations.

**Results:** The anticipated results of this study will quantify and qualify the impact of the PIHCI network which has employed a novel research paradigm. In the qualitative phase, we hope to better understand the anticipated results from objectives 1-3 and to explore how they fit with the strategic objectives of various health care systems in Canada. Lastly, the anticipated results are expected to bring forth some recommendations for the network concerning optimization and better functioning.

**Conclusion:** The results should allow the research network to make changes to enhance impact and create a rapid learning system. What is more, the results of the study will allow the PIHCIN to assess what worked and what can be improved within the goals of the Strategy of Patient Oriented Research.

**Author Names:** Jamie DeMore , McGill University ; Sabrina Wong, UBC; Onil Bhattacharyya, Women's College Hospital; Gillian Bartlett, McGill University Department of Family Medicine

# *See Us, Understand Us. Examining Newcomer Women's Access and Utilization of Maternity Care in Canada: A Systematic Narrative Review*

Ms. Isabelle Dena, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Access to adequate and quality maternity care is essential during the perinatal period, regardless of a woman's background. However, research suggests disparities in access and quality of maternity care provided to recent immigrant and refugee women in Canada. Potential factors influencing these disparities include socioeconomic position, cultural, psychosocial, geographical, among others. This systematic narrative review aims to present current knowledge about newcomer women's maternity care experiences by highlighting barriers and facilitators of access and utilization.

**Approach:** A review of the literature examined multiple peer-reviewed journals, policies, reports, and government surveys. The search utilized different electronic database sources such as Medline, CINAHL, and PubMed. Key search terms included, "newcomer," "newcomer women," "recent immigrants," "maternity care," "pregnancy," "prenatal care". This author also did hand searching of articles from the references cited in the already retrieved literature.

**Results:** The summary of findings from the systematic narrative review revealed specific barriers and facilitators related to access and utilization issues of maternity care by newcomer women. The potential consequence of inadequate maternity care can negatively impact the mother-baby's health resulting in low birth weight, pre-term births, and becoming at risk for mental health issues during the perinatal period. Other studies noted newcomer women originate from various ethnocultural backgrounds. Therefore, care providers need to be sensitive to newcomer women's needs during pregnancy, birth and the postpartum period.

**Conclusion:** Although research has revealed knowledge regarding maternity care experiences of newcomer women in Canada. Little is known about their experiences by care provider types. Further research should be done to investigate newcomer women's quality of maternity care by examining patient-clinician relationships using physician and midwifery maternity care models.

**Author Names:** Isabelle Dena, University of Saskatchewan; Nazeem Muhajarine, University of Saskatchewan



## *Comprehensive Provincial MS Care Clinical Pathway Creation and Implementation*

Dr. Sarah Donkers, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Collaborative Healthcare Improvement Partnerships

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Multiple Sclerosis (MS) is a chronic neurodegenerative disease. Saskatchewan (SK) has one of the highest rates of MS in the world. SK needs to be a leader in delivering comprehensive MS care. This project informed the creation and implementation of a Provincial Clinical Care Pathway as a starting point to optimize evidence based best practice healthcare for individuals living with MS in SK.

**Approach:** A multi-stakeholder provincial Pathway development team was established. The development team includes a diverse representation of individuals living with MS, Ministry of Health, Health Authority, MS Clinic, MS Society, Health Professionals and Researchers located across SK. An integrated knowledge translation and iterative consensus building approach was used throughout to maximize the meaningfulness and relevance of the Pathway to its end users.

**Results:** Over a 2-year period the development team has created a comprehensive care pathway that highlights best practice flow of care, serves as an informational resource, and provides a synthesis of current evidence in MS. Two streams were created for the Pathway, one targeting health care providers and the other targeting people with MS and their caregivers. The development team used smaller subcommittees to target 3 main areas: educational information and localized resources; clinical leadership, and coordination of care. Community engagement was sought throughout before launching final Pathway products (to be launched May 2020). The Pathway material will be presented as an interactive website (one for each stream), and a booklet for individuals newly diagnosed with MS.

**Conclusion:** This project was incredibly valuable in highlighting areas of importance, strengths and weakness in Provincial MS care. This process and resulting Pathway informs tailoring of future resources, health systems decisions, and research to be directed in the most impactful areas. The next step is ongoing evaluation of Pathway implementation.

**Author Names:** Sarah Donkers, University of Saskatchewan

## *Exploring the feasibility of implementing an informed consent process for Rh immune globulin in northern BC*

Ms. Kian Draper, University Of British Columbia

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Knowledge users from Northern Health (NH) authority have identified shortcomings to the informed consent process for receiving RhIG in pregnancy, which is essential for ensuring that patients understand the associated risks and do not inadvertently violate their religious or other values. Evaluating the use of consent forms, patient-provider discussions, and whether the patient makes an informed decision will identify barriers to informed consent faced by both patients and care providers in a well-established prevention program.

**Approach:** Using Normalization Process Theory as a conceptual lens, we will pilot the implementation of an RhIg consent form in five medical practices in Prince George, BC for three months. On the consent form, we will ask health care providers to indicate to what extent they discussed the administration of RhIG with the patient and if this discussion was documented in the patient's chart. At the end of the trial period, we will conduct one-on-one telephone interviews with each provider to assess the practicality and feasibility of the consent form, as well as to assess potential barriers and facilitators to use.

**Results:** Data collected from consent forms and telephone interviews with providers will be analyzed both qualitatively and quantitatively to elucidate the feasibility of implementing a consent form, the barriers to patient-physician discussion, and the impact of proper consent on provider practice. We anticipate the implementation of a consent form will result in more thorough patient-physician discussion and reveal barriers to consent that can be considered for future health care improvement.

**Conclusion:** This study may provide valuable information regarding the implementation of a consent form in a well-established process and as well as the utility and feasibility of the implemented form. Following completion of this trial, we hope to expand this study across the vast geographic that NH covers in British Columbia.

**Author Names:** Kian Draper, University Of British Columbia; Jennifer Brown, Northern Medical Program - UBC/UNBC; Trina Fyfe, ; Christorina Taruc, University Hospital of Northern BC; Jennifer Hawkes, University Hospital of Northern British Columbia ; Christine Brenckmann, University hospital of northern BC

## *Truth and Reconciliation through Indigenous Health Research in a University Setting*

Ms. Lynette Epp, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Indigenous Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Approaches to Indigenous health research (IHR) in academia have been shifting from extractive research controlled by researchers towards more collaborative, and indeed Indigenous-led research that benefits Indigenous peoples. In this era of Truth and Reconciliation, and given the historical and ongoing colonization perpetuated through IHR in Canada, researchers must also consider how to actively engage in reconciliation through their research. This project explores IHR in the context of Truth and Reconciliation in a university setting.

**Approach:** An instrumental case study in the College of Medicine at the University of Saskatchewan was undertaken to explore the knowledge and experiences of Indigenous and non-Indigenous faculty involved in IHR in the context of Truth and Reconciliation. Within a decolonizing framework, guided conversations with faculty participants were complemented by document analysis and institutional contextual information from key informants. An iterative approach to data collection, analysis and meaning making was informed by member checking with participants and input from advisers. Relationships with Indigenous scholars and leaders on campus grounded and informed the project from its conceptualization through to its reporting.

**Results:** Through eleven guided conversations with five Indigenous and six non-Indigenous faculty, complemented by contextual information from eight key informants and key institutional documents, a conceptualization of Truth and Reconciliation in IHR in a university setting began to emerge. 'Reconciliatory research' involved factors pertaining not only to the aims and process of the research, but also to the researcher themselves in the context of an 'ethic of reconciliatory research' that extended beyond expected standards for conventional academic research. Tensions between this ethic of reconciliatory research and the policies, procedures and norms in the institutional context bring challenges and opportunities to researchers involved in IHR in universities. Examples of reconciliatory research in this setting were present, but not all IHR being conducted in universities meets such standards.

**Conclusion:** It is possible for IHR to contribute to Truth and Reconciliation, but further change is required on the part of researchers in relation to how IHR is conducted and by whom; and on the part of universities to accommodate specific considerations for IHR through shifts in policies, procedures and norms.

**Author Names:** Lynette Epp, Department of Community Health and Epidemiology, College of Medicine, University of Saskatchewan; Sylvia Abonyi, University of Saskatchewan; Rose Roberts, University of Saskatchewan; Malcolm King, University of Saskatchewan

# *Illness Experiences and Settler Colonialism: An Ethnography with Indigenous Peoples Receiving In-Centre Hemodialysis in Winnipeg, Manitoba*

Ms. Priscila Ferreira da Silva, University of Manitoba

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**Category:** Poster

**Primary Theme:** Indigenous Health

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Despite some advancement achieved through the Truth and Reconciliation Commission, Indigenous peoples experience a variety of health disparities including alarming rates of end-stage kidney disease (ESKD). As Manitoba has the highest incidence and prevalence of ESKD in Canada, with Indigenous peoples disproportionately represented, this study will identify barriers and facilitators to enhance the quality of life of Indigenous patients undergoing hemodialysis (HD), and explore more broadly the cultural safety strategies in renal care in Winnipeg.

**Approach:** Using CIHR's Strategy for Patient-Oriented Research (SPOR) in conjunction with decolonizing methodologies, this ethnographic study will facilitate one sharing circle, one focus group, and 15 in-depth semi-structured interviews. Participant observation will occur throughout the data collection period to build and nurture meaningful research partnerships. This study will draw upon the social determinants of Indigenous people's health to understand the trajectory of patients transitioning to HD therapy. By rethinking settler colonialism as a present structure rather than an event from the past, this study will contextualize ESKD inequities, but also highlight the voices and strengths of Indigenous peoples.

**Results:** This study is at the planning stage, and is part of the Can-SOLVE CKD network Triple I project, which is a larger mixed methods study designed to enhance the ways that HD patients access information, interact with health providers, and receive a personalized care plan across multiple providers. The project will uniquely examine barriers and facilitators to care in the context of ESKD by exploring the relationship between broader structural forces and the lived experiences of Indigenous patients receiving HD in Winnipeg. As health institutions and renal programs allocate resources to help support the TRC calls to action, study findings will promote a deeper engagement with the experiences of patients and caregivers, helping to better match care strategies and services.

**Conclusion:** This collaborative project will compile the first-hand accounts of Indigenous patients who have relocated to Winnipeg for HD treatment, and also those living in urban centers. It is anticipated that results will contribute to innovative solutions to help enhance policy development and support culturally appropriate approaches to renal care.

**Author Names:** Priscila Ferreira da Silva, University of Manitoba

*A deeper dive into understanding patients with uncertain attachment to their primary care provider: Ontario's new regions for health care provision*

Mr. Eliot Frymire, Queens

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Poor attachment to a primary care provider is often associated with negative effects on patient health care access and outcomes. Some of these patients, however, have been shown to be low users of the health care system. Our objective is to examine the characteristics of non-users and uncertainly attached patients in the context of reforms to Ontario's delivery of primary health care. This will inform health policy around the organization.

**Approach:** With an updated algorithm for defining attachment to a primary care provider in Ontario, we will take a detailed look at the characteristics of patients with poor attachment to a primary care provider. The new attribution networks that define Ontario Health Teams (OHTs) are used to look at attachment to a primary care provider. Detailed patient characteristics are examined by level of attachment (uncertainly attached, attached, and non-user) within each of the attribution networks. We will report on characteristics of these patients and their primary care physicians.

**Results:** Characteristics of patients by attachment level in each of the 78 attribution networks will be reported. For the 3 categories of attachment, we will examine co-morbidity, health care utilization, age, sex, rurality, income, continuity of care metric, ambulatory care sensitive conditions (ACSC), emergency visits, hospitalizations and Canadian Triage and Acuity (CTAS) levels. Family physician level data will also be reported on in these networks.

**Conclusion:** By examining the characteristics of patients and family physicians in each of the new attribution networks, we can ascertain which regions have significant primary care needs across the province. This identification will in turn inform health care policy to address these needs.

**Author Names:** Eliot Frymire, Queens; Michael Green, Queen's University; Richard Glazier, Institute for Clinical Evaluative Sciences; Kamila Premji, Western University Centre for Studies in Family Medicine; Tara Kiran, DFCM, University of Toronto; Imaan Bayoumi, Department of Family Medicine, Queen's University; Jennifer-Lynn Fournier, School of Nursing, Laurentian University; Liisa Jaakkimainen, ICES; Shahriar Khan, ICES- Queens

# *The Future of Digital Health Information Interoperability in Quebec: Results of a Historical Case Study of Quebec Health Policy*

Mr. Justin Gagnon, McGill University

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**Category:** Poster

**Primary Theme:** Health Informatics

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** Over the last three decades, health administrators worldwide have worked toward the digitization of their health systems. In Canada, there is still room for improvement regarding the interoperability of digital health information systems. Differing in context and strategy, each province and territory differs in terms of their digital health information infrastructure and exchange capabilities. Improving interoperability requires an understanding of its current state as well as a vision for linking different systems and services.

**Approach:** A historical case study of Quebec health policy between 1991 and 2019 was conducted. Data were obtained from policy documents and reports, and from semi-structured interviews with key policy decision-makers. The data were synthesized and configured as a narrative that provides a description of the digital health information network in Quebec and a vision for improving interoperability.

**Results:** Preliminary results suggest that Quebec decision-makers initially prioritized the development of a patient health record (Dossier Santé Québec) and delayed interoperability with primary and hospital care. Numerous local systems and commercial products thus emerged, without there having been defined, at the outset, adequate data standards and exchange capabilities. The presentation will provide: 1) an illustration of the health information network in Quebec, 2) an overview of current initiatives that seek to address communication gaps between services and points of care, and 3) a summary of recommendations from policy and digital health information experts for improving interoperability.

**Conclusion:** This research provides an understanding of Quebec's digital health information network. It also provides recommendations for improving interoperability, from key decision-makers previously involved in digitization initiatives. With this knowledge, we are better equipped to evaluate whether proposed strategies are aligned with this expert advice and improve upon these strategies.

**Author Names:** Justin Gagnon, McGill University; Gillian Bartlett, McGill University Department of Family Medicine; Charo Rodriguez, McGill University Department of Family Medicine

**Category:** Poster

**Primary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Multimorbidity, or the presence of multiple chronic diseases, is a growing public health challenge in industrialized countries. It is associated with increased healthcare use and expenditures in comparison with single chronic diseases. Despite the increasing prevalence of multimorbidity, hospital cost analyses continue to be based largely on a single-illness model, the Diagnosis Related Group (DRG). We tested whether using a validated multimorbidity index in conjunction with DRGs improved hospital cost analyses.

**Approach:** We conducted a retrospective cohort study using hospital records for adults admitted or undergoing day surgery at the Centre Hospitalier de l'Université de Montréal from 1 April 2016-31 March 2017. We included first admissions in the 30 most frequent DRGs, which group diagnoses by clinical similarity and healthcare resource needs. Multimorbidity was assessed using weighted scores on the Combined Multimorbidity Index. Total cost per admission was calculated retrospectively using Power Performance Manager activity-based costing software. We used quantile regression to estimate the contributions of DRG weighted multimorbidity score, and DRG-by-score interaction to the median cost of a hospital admission.

**Results:** When considered alone, multimorbidity score was significantly associated with hospital costs. Each additional point on the index was associated with a median cost increase of \$1,535 (1468; 1602). When considered in addition to the DRGs, the median cost increase associated with multimorbidity score remained statistically significant but small, at \$37 (19; 56) per point. When interaction terms were added to the model, we found larger DRG-by-multimorbidity-score interactions. The largest interactions were for Percutaneous coronary interventions with acute myocardial infarction (\$695, 255; 1,135) and Coronary bypass without acute myocardial infarction (\$631, 333; 929). However DRGs had the strongest associations with hospital costs, ranging from \$-1603 (-1821; -1385) for Alcohol abuse and dependence to \$6813 (6032; 7594) for Major pancreas, liver and shunt procedures.

**Conclusion:** In the absence of DRG information, the Combined Multimorbidity Index shows significant association with hospital costs. However, when the DRG is available, the index score explains little additional cost variation. Further research should be conducted to determine the index's utility in long-term cost analyses where no single DRG applies.

**Author Names:** Myles Gaulin, Centre de développement et d'opérationnalisation du Coût par parcours de soins; Catherine Gervais, Centre de développement et d'opérationnalisation du coût par parcours de soins; Marc Simard, Institut national de santé publique du Québec

## *Healthcare services during transition of individuals with autism to adulthood: Is it integrated?*

Dr. Parisa Ghanouni, Dalhousie

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Transition from adolescence to adulthood is a natural developmental milestone. However, for many adolescents predisposed to mental disorders, including individuals with autism spectrum disorder (ASD), the challenges of transition to adulthood will be amplified. People with ASD often face an interruption in receiving health services during the transition to adulthood. This project aims to uncover barriers and facilitators related to health services during the transition of adolescents with ASD to adulthood.

**Approach:** We interviewed 18 stakeholders, including 6 youth with high functioning ASD aged 15-25 years old, 6 parents of individuals with ASD; and 6 healthcare providers from inter-professional practice who work with individuals with ASD (> one year working experience) from across Canada. In-depth and semi-structured interviews were employed using open-ended questions to identify healthcare challenges in the transition to adulthood of adolescents with ASD. Interviews were transcribed verbatim and analyzed thematically to develop overarching themes.

**Results:** Using thematic analysis yielded three themes including (a) availability of ASD-specialized professionals; (b) navigation and accessibility of healthcare services; and (c) trauma from a healthcare experience. This project is one of the first studies to involve key stakeholders to highlight barriers of healthcare services during transition of individuals with ASD to adulthood in Canada.

**Conclusion:** The findings from this project will improve our understanding on how to improve healthcare services during the transition to adulthood. The knowledge generated from this project can be used to enhance healthcare practices, education, and policy, and will be applicable to a broad range of transitional healthcare in future studies.

**Author Names:** Parisa Ghanouni , Dalhousie



**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Understanding the prospects for policy reform is a complex challenge due to the intersection of many influential factors. Even when the need for reform is widely recognized, as is the case for Iran's Hospital Accreditation Program (IHAP), myriad consideration may hamper prospects. Policy theorists have begun to incorporate multiple frameworks through integrated models to address this complexity. This study applies such an integrated framework to study prospects for accreditation reform in Iran.

**Approach:** Individual in-depth semi-structured interviews with three key informants in the medical, political and academic communities were combined with a review of policy documents and academic literature. Data were analyzed using an integrated framework, in which concepts from the Policy Cycle Framework, the Advocacy Coalition Framework, the Multiple Streams Framework, theories of ideas and policy learning, and institutional factors and legitimacy were incorporated in order to answer when, why, how, and by whom the current policy reform happened, and prospects for further reform. Triangulation across data sources was used to verify the results.

**Results:** A policy window opened between 2015 and 2016, in which the accreditation model undertaken by government rather than an arm's length body was changed. Factors that contributed to the reform included the lack of freedom in human resource management, poor culture of teamwork, underperformance, and political instability. Despite widespread concerns about the current model, the potential for policy reform on the issue of independent regulation of hospital accreditation by a non-governmental agency appears very unlikely to be available at the present based on the analysis. In the absence of reform, improved structural and cultural infrastructure in Iranian hospitals will be required to more effectively implement of the current Iranian program. Furthermore, an operative evaluation system to monitor the program is required.

**Conclusion:** The findings indicated that IHAP reform is complex to interpret using a single framework, and it confirmed the added value of an integrated framework to elaborate the policy change more insightful, drawing attention to the interaction of the policy process, actors' ideas, learning, timing, institutional factors and legitimacy.

**Author Names:** Somayeh Ghazalbash, McMaster university; Gillian Mulvale, McMaster University

## *Towards equity in health: Mobilizing and utilizing Indigenous Knowledge in health research*

Dr. Hasu Ghosh, Heath Canada

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**Category:** Poster

**Primary Theme:** Indigenous Health

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Despite good intentions and decades of discussion for transformative changes to improve health equity, avoidable health inequalities still persist in Canada. A paradigm shift in health research is critical that calls for mobilizing and utilizing Indigenous Knowledge (IK) in Western Science (WS)-based health research and decision-making. Within the spirit of reconciliation and self-determination, this review aims to understand the concept of IK, locate supporting best practices, and identify barriers and opportunities with recommendations.

**Approach:** This review draws from academic and grey literature published during 2008-2018 that integrated IK and WS in the area of health research and decision-making. The research questions, review and analytical protocol were grounded in “Two-Eyed Seeing” framework and narrative thematic inquiry method. Relevant articles were extracted from databases (e.g. PsychINFO, Scopus, and PubMed) and institutional websites. The systematic inclusion and exclusion criteria were developed, which resulted in 75 articles (56 academic and 19 grey) to be included in the final review. All relevant narrative extracts were recorded by using deductive and inductive thematic analysis methods.

**Results:** The findings of this literature review offer promises for the integration of Indigenous IK and WS knowledge systems and highlight some challenges and successes with recommendations. The emerging themes emphasized the importance of the contextual and diverse nature of IK, the role of knowledge holders/Elders, trustworthy relationship building, ethical and adaptable integration processes, and organizational commitment (e.g. adequate resources, expertise, and time commitment). The limitations of “one-size fits all solution” and a linear approach of knowledge integration was underscored. It is recommended, wherever possible, IK integration processes be either co-created with Indigenous partners or led by Indigenous people to ensure respect, reciprocity, responsiveness, and community norms.

**Conclusion:** A commitment for sustained engagement with Indigenous Peoples and respectful inclusion of their knowledge in WS-based health research and decision-making can offer innovative solutions for range of health issues requiring multipronged approaches (Indigenous and non-Indigenous alike), and advance equities in health outcomes.

**Author Names:** Hasu Ghosh, Heath Canada

## *Evaluating free nicotine replacement therapy in the Vitalité Health Network's Smoking Cessation Clinics: a preliminary analysis*

Mrs. Karelle guignard, Réseau de santé Vitalité

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Every day, nearly 100 Canadians die from smoking-related illness. Nicotine replacement therapy (NRT) is a great option for stopping the consumption of tobacco products. However, 28.8% of New Brunswick smokers do not have drug coverage that covers NRT. The objective of this project is to determine if the NRT offered free of charge with the normal care of the smoking cessation program can reduce or stop the consumption of tobacco products in New Brunswickers.

**Approach:** At this point, a total of 44 participants ( $50.1 \pm 3.9$  years, 19M: 25F) take part in the program. Each participant will be evaluated for a year. The intervention is a 12 weeks smoking cessation program that included 5 individual sessions with a nurse practitioner or smoking cessation counselor. The Ottawa Model for Smoking Cessation was used in conjunction with the free NRT. All the clinical cares provided to the participants were the same. General questionnaire and carbon monoxide concentration (Smokerlyzer) have been collected. Data were collected at the beginning, 30, 90 and 180 days of the program.

**Results:** Overall, the number of quit attempts before the start of the program was high. Most participants have tried to quit smoking 5 or more times (32%). During the program, 28 subjects stop smoking (65%), 9 (14%) decreased their consumption and 7 (21%) did not change their habits. For the carbon monoxide concentration, there was an improvement between the baseline and the different visits ( $p < 0.05$ ). More than 39% of the participants had one or more chronic diseases associated with smoking. However, 91% of the participants had noted greater health benefits with the NRT (e.g., more energy, better ability to breathe, better quality of life). We anticipate that this study will possibly change provincial policies related to free NRT for patients without insurance.

**Conclusion:** It is possible to distinguish the positive effect of a free NRT program for a population with no drug coverage. Several benefits are associated with the decreased or stopping the consumption of tobacco products. However, these results are preliminary and participant recruitment/data collection is ongoing.

**Author Names:** Karelle guignard, Réseau de santé Vitalité; Mathieu Mallet, Réseau de santé Vitalité

## *Association between the extent of good organizational practices and quality of dementia primary care: A cross-sectional study*

Ms. Mary Henein, Lady Davis Institute

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Experimental or Quasi-experimental Methods

**Background and Objectives:** Dementia care strategies/plans within primary care are being implemented in multiple provinces across Canada. Variation in organizational practices of primary care settings may influence the success of their implementation, and consequently the quality of dementia care. This study aimed to measure the association between the extent of good organizational practices and quality of care for older persons with dementia in interdisciplinary primary care practices in Ontario, Quebec, and New Brunswick.

**Approach:** A cross-sectional study was conducted between 2014-2018. A score across nine domains of organizational practices (leadership, training, financial support, information systems, continuity of care, caregiver support, coordination with home care/hospital, specialists support) was measured at participating practices through a self-administered questionnaire. A quality of dementia care score, based on 10 validated indicators, was measured using a chart review. A linear mixed model was used to measure the association between the organizational practices score and quality of dementia care score, adjusted for patient (age, sex, number of medications) and practice (province and self-reported physicians and nurses' knowledge, practice and attitudes) characteristics.

**Results:** Data from the chart review and questionnaires were collected for 620 patients and 28 sites (25% Ontario, 54% Quebec, and 21% New Brunswick). No association was found between the organizational practices score and quality of dementia care score (mean = 0.12, 95% CI -0.06, 0.31). The association of province and quality of dementia care score was significant (New Brunswick vs. Quebec: mean = -22.1, 95% CI -34.5, -9.7; Ontario vs. Quebec: mean = -22.4, 95% CI: -28.9, -15.8).

**Conclusion:** In our study, the extent of good organizational practices within primary care was not associated with the quality of dementia care. A more in-depth examination of which specific practices may lead to better dementia care is important to inform the development and implementation of dementia strategies in primary care.

**Author Names:** Mary Henein, Lady Davis Institute; Nadia Sourial, Department of Family Medicine, McGill University; Genevieve Arsenault-Lapierre, Family Medicine Department of McGill University; Claire Godard-Sebillotte, McGill University; Howard Bergman, Department of Family Medicine at McGill University; Isabelle Vedel, McGill University

## *Teaching future health leaders: Preliminary results on the ways in which leadership is taught to dietetic trainees*

Ms. Billie Jane Hermosura, University of Ottawa

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**Category:** Poster

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Tackling disparities and achieving health equity comes through leadership that embraces the integration of science, practice, and policy. Within Canada, leadership is recognized as an emergent competency domain for dietitians. Moreover, leadership within the health sector continues to be recognized as a key factor to improving healthcare systems. However, without an understanding of the different leadership domains resident in health professions, it is challenging to develop curricula and appropriately assess leadership skills in dietetic trainees.

**Approach:** A curriculum document analysis through a standardized extraction tool was conducted. To elaborate on program activities, 90-minute focus group discussions with dietetic administrators and educators were subsequently completed. Participants were purposively sampled to represent a range of dietetic program. Audio recordings of the interviews were transcribed verbatim. Transcripts were thematically coded and analyzed using NVivo 12.

**Results:** This presentation reports on Phase I of a broader research project. Different perspectives on what leadership is were identified. Themes related to accomplishing goals, collaboration, and health system transformation emerged, which align with the LEADS framework. Final results from this phase will be presented to dietetic educators in Phase III to determine opportunities for curriculum development.

**Conclusion:** A clear understanding of the different leadership domains in the health professions is necessary to develop and assess leadership skills in dietetic trainees.

**Author Names:** Billie Jane Hermosura, University of Ottawa

## *Case analysis of a free volunteer patient advocacy service in Alberta*

Mr. Zachary Hong, Open Arms Patient Advocacy Society

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** As a healthcare support, patient advocacy organizations assist patients with healthcare management and navigation of the healthcare system. Due to nature of their service, they possess understudied data regarding healthcare challenges experienced by their clientele. This data could provide valuable insights for improving the healthcare system, such as navigation and accessibility. As an organization providing free patient advocacy services, we conducted this study to identify patterns of healthcare challenges experienced by Albertans.

**Approach:** All complete client intake forms (n = 96) submitted via an online webform from 2014-2018 were retrospectively analyzed. Cases were screened by a client intake coordinator. Exclusion criteria included legal action, financial aid, or a client request to expedite processes within the healthcare system. In addition, inquiries which were resolvable by the client intake coordinator prior to assistance from a patient advocate were also excluded. All data included in this study was from an Albertan demographic. For demographic analysis, age and biological sex were determined. Cases were classified using elements of the constant comparative method of thematic analysis.

**Results:** At intake, client ages ranged from 0-91 (mean = 44±19). 73% of cases were female. The most frequent healthcare concerns were psychiatric (24%) or neurological (18%). Cases were first classified as non-medical (67%) or medical (33%). For non-medical cases, clients requested: information on processes specific to the Alberta health care system (50%); situation-specific guidance (37%); or in-person support at appointments (13%). For inquiries on system processes, common themes included accessing records (19%), and assistance with filing complaints (14%). For guidance related concerns, common themes included addressing poor quality of care (35%), and advice on deaths after an adverse health care event (26%). For medical cases, clients requested assistance with treatment (56%), or diagnosis (44%).

**Conclusion:** Patient advocacy may benefit patients seeking assistance with their healthcare. This service was most frequently used by females, middle-aged adults, and patients with psychiatric and/or neurological concerns. This suggests health literacy initiatives and additional system supports could improve system navigation for these groups.

**Author Names:** Zachary Hong, Open Arms Patient Advocacy Society; Farwa Naqvi, Open Arms Patient Advocacy Society

*Hard-to-reach populations and administrative health data: a serial cross-sectional study and application of data to improve interventions for people experiencing homelessness in the Niagara region of Ontario, Canada*

Dr. Rahat Hossain, University of Toronto

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Administrative health data can aid in study and intervention design, incorporating hard-to-reach individuals who may otherwise be poorly represented. We aim to use administrative health data to examine emergency department visits by people experiencing homelessness in the Niagara region of Ontario, Canada. We then explore the application of this data for planning a subsequent peer support intervention including site selection, targeting times, and anticipating the duration of the intervention with participants.

**Approach:** We conducted a serial cross-sectional study examining emergency department use by people experiencing homelessness and non-homeless individuals in the Niagara region of Ontario, Canada. The study period included administrative health data from April 1st, 2010 to March 31st, 2018. Outcomes included number of visits; number of unique patients; group proportions of Canadian Triage and Acuity Scale (CTAS) scores; time spent in the emergency department; and time to see an MD. Descriptive statistics were generated, and t-tests were performed for point estimates and a Mann-Whitney U test for distributional measures.

**Results:** Our data included 1,486,699 emergency department visits. The number of unique people experiencing homelessness ranged from 91 in 2010 to 344 in 2017, trending higher over the study period compared to non-homeless patients. The rate of visits increased from 1.7 to 2.8 per person during this same period. People experiencing homelessness tended to present later in the day and with higher overall acuity as compared to the general population. Time in the emergency department and time to see an MD were greater among people experiencing homelessness.

**Conclusion:** Administrative health data allows researchers to enhance interventions and models of care to improve services for vulnerable populations. Our data suggested that a peer support intervention would thrive if available later in the day, targeted towards certain sites, and allowed us to anticipate certain volumes for recruitment.

**Author Names:** Rahat Hossain, University of Toronto; Jia Hong Dai, McMaster University, Michael G. DeGroote School of Medicine, Niagara Regional Campus; Shaila Jamani, Brock University; Zechen Ma, McMaster University, Michael G. DeGroote School of Medicine, Niagara Regional Campus; Erind Dvorani, IC/ES; Erin Graves, IC/ES; Ivana Burcul, McMaster University, Michael G. DeGroote School of Medicine, Niagara Regional Campus; Stephenson Strobel, Cornell University

*Institutions et régimes d'assurance maladie au Canada : Une analyse historique et comparative entre trois provinces  
Alberta, Ontario et Québec.*

Mrs. Nassirou Ibrahim, Université de Montréal

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** French

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Les régimes d'assurance maladie sont au cœur des systèmes de santé et font l'objet de débats récurrents comme en témoignent les discussions autour de l'assurance médicaments lors la dernière élection fédérale du Canada. Depuis le rapport de la commission Hall (1964), la gestion des services de santé est devenue une responsabilité des provinces ; ce qui amène des différences entre leurs régimes de couverture des médicaments sur ordonnance. Cet article cherche à examiner ces différences.

**Approach:** Au-delà d'une analyse économique, l'histoire, les institutions qui en résultent et les différents intérêts placés au cœur d'une nation constituent des modes d'explication de l'évolution des régimes et des débats les entourant. En s'inspirant de la démarche de Hacker (1998), cet article propose une analyse historique et comparative de trois provinces canadiennes, soit l'Alberta, l'Ontario et le Québec. Les analyses sont faites sur cinq variables du cadre de Hacker : le fédéralisme, la capacité administrative, la structure gouvernementale, le sentier de dépendance et les points critiques.

**Results:** Les résultats de l'étude révèlent que les politiques sur la couverture des médicaments sont historiquement dépendantes et caractérisées par des points critiques différents. Ces derniers ont conduit à des régimes de couverture des médicaments qui diffèrent d'une province à une autre. Pendant que le Québec fonctionne sous un régime d'assurance médicaments obligatoire à dominance privée, l'Alberta exécute de son côté une protection facultative pour les personnes qui ne sont pas couvertes par une assurance privée. L'Ontario, pour sa part, couvre des individus ayant un niveau élevé de dépenses en médicaments par rapport à leur revenu. Le fédéralisme est certes le déclencheur de ces différences, mais ce sont la structure gouvernementale et la capacité administrative qui ont joué un rôle important dans leur émergence.

**Conclusion:** Malgré la volonté manifeste du gouvernement fédéral d'un régime universel des médicaments, les différences provinciales sur leur couverture constituent un enjeu majeur. De ce fait, les réflexions d'un régime universel équitable ne peuvent s'en passer des chemins suivis et des facteurs historiques et institutionnels ayant contribué à leur émergence.

**Author Names:** Nassirou Ibrahim, Université de Montréal



*Variations de pratique professionnelle chez les médecins: Une étude de cas de prescription des médicaments aux Aînés dans les Centres d'hébergement et de soins de longue durée du CUISSS-Nord de l'île de Montréal.*

Mrs. Nassirou Ibrahim, Université de Montréal

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** French

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Longtemps négligé dans les débats politiques et scientifiques, le phénomène de variations de pratique médicale devient de plus en plus un sujet récurrent au cours de ces dernières années. Au-delà d'une simple curiosité, ce phénomène est révélateur d'un problème sous-jacent concernant la qualité même des soins de santé. Au Québec en particulier, la population des personnes âgées de 65 ans plus est l'un de groupes les plus touchés par les variations de pratique médicale.

**Approach:** À partir de données longitudinales (2012 à 2018) de la banque de données "Gespharx" sur les prescriptions des médecins, cette étude présente une analyse des profils de prescriptions des médicaments par les médecins dans les Centres d'hébergement de soins de longue durée (CHSLD) au Québec. Dix centres, du grand Centre intégré universitaire de santé et de services sociaux (CUISSS) du nord de l'île de Montréal, constituent l'unité d'analyse. Le coefficient de variations, mesurant le rapport entre l'écart et la moyenne des prescriptions, constitue principalement l'instrument d'analyse. D'autres indicateurs comme la moyenne, le maximum et minimum sont aussi utilisés.

**Results:** : Il ressort des analyses une importante variation de pratique de prescription des médicaments par médecin. Ces variations varient avec le type médicament et le centre d'hébergement. La variation est beaucoup plus prononcée pour les neuroleptiques que pour les benzodiazépines ou les autres anxiolytiques. Elle est aussi plus observée dans le centre "Louvain" et moins prononcée au niveau du centre "Saint-Laurent".

**Conclusion:** Certes, les résultats dénotent une forte variation de la prescription des médicaments d'un médecin à un autre ou encore d'un CHSLD à un autre, mais les réflexions sont à approfondir notamment avec des analyses multi-niveaux. Cela permettra d'examiner les effets spécifiques des différents niveaux : patient, médecin et CHSLD.

**Author Names:** Nassirou Ibrahim, Université de Montréal

*Mind the gap: Comparing treated prevalence of mental and substance use disorders in British Columbia with expected prevalence based on epidemiological literature.*

Ms. Ridhwana Kaoser, Centre for Applied Research in Mental Health and Addictions - SFU

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** There is widespread recognition that not all people with mental and substance use (MSU) disorders are getting the treatment they need. Service planners need a standardized approach to measure MSU treated prevalence and track whether service use is aligned with the expected need within the population. We present the treatment gap of MSU disorders in British Columbia by comparing the treated prevalence with the expected epidemiological prevalence.

**Approach:** We developed case definition algorithms to analyze the treated prevalence of eight MSU disorder groupings using British Columbia administrative data (hospital discharge claims and Medical Services Plan (MSP) billing records) over fiscal years 2012/2013 through 2015/2016. We then compared observed treated prevalence with age- and sex-specific expected epidemiological prevalence for the province of British Columbia.

**Results:** Our results showed that the difference between observed treated prevalence and expected epidemiologic prevalence, or the treatment gap, varies by disorder. Schizophrenia had the smallest treatment gap, whereas personality disorders, alcohol use disorder, and attention-deficit/hyperactivity disorder had the highest treatment gaps. The treatment gap also varied by age and sex.

**Conclusion:** Our findings illustrate that the administrative data are useful in capturing the treated prevalence of MSU disorders. The variability in the prevalence across the MSU disorders supports the need to monitor MSU disorders separately. Findings will be useful to inform the planning of resources, policies, and programs for MSU disorders.

**Author Names:** Ridhwana Kaoser, Centre for Applied Research in Mental Health and Addictions - SFU; Ruth Lavergne, ; Wayne Jones, Centre for Applied Research in Mental Health and Addiction (CARMHA); Hasina Samji, BC Centre for Disease Control, Provincial Health Services Authority, Faculty of Health Sciences, SFU; Naomi Dove, School of Public Health, UBC; Corinne Tallon, Foundry ; William Small, Faculty of Health Sciences, SFU; Mehdi Shirmaleki, Centre for Applied Research in Mental Health and Addiction (CARMHA)

**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Diabetes is a prevalent chronic condition and the 7th most common cause of death in Canada. Diabetes Teams provide specialist care in Nova Scotia, including support for self-management. As part of a Nova Scotia Health Authority quality improvement initiative, our objectives were to 1) describe aspects of self-management support provided by Diabetes Teams in rural Nova Scotia, and 2) identify gaps in self-management support that will influence policy and practice.

**Approach:** Four Diabetes Teams participated in the quality improvement project. The Taxonomy of Everyday Self-management Strategies (TEDSS), a patient centred framework, categorizing self-management strategies into seven domains and 25 subdomains, was used to describe potential areas of self-management support. Data were collected using worksheets which captured the domains/subdomains supported, the proportion of time providers reported spent supporting each TEDSS domain, use of referrals to provide support, and provider perceived gaps in supporting Data were gathered from individual participants, then aggregated to the team level and then across teams.

**Results:** Four registered nurses and five dietitians from the four teams participated. Panel sizes ranged from 400-3000 patients, with all teams located in rural Nova Scotia. More than 50% of time was spent supporting the Healthy Behaviours and Disease Controlling domains; time spent supporting other domains varied by provider and team. Support to manage formal and informal supports and resources, social interactions, and emotions were rarely provided. At least one provider reported gaps in 20 out of 26 subdomains. Teams with the same composition and with smaller panel sizes reported fewer gaps than teams with larger panel sizes. As might be expected, larger gaps were identified in domains with lower proportions of time spent supporting.

**Conclusion:** The TEDSS framework is useful to describe the domains of self-management support provided by providers and by teams. Both gained insight into the support provided, existing gaps and difference between teams. The number of patients per team, differing patient populations, and available community resources may explain gaps and differences.

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## *Opening the Black Box of Self-Management – Implications for Policy and Practice*

Mrs. America Keddy, Dalhousie University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Self-management support is essential for chronic disease management, and to the design and quality improvement of primary care and chronic disease teams. Yet, teams generally lack consensus on the critical components of self-management support they are addressing, who is doing so, and where there are gaps. Using a patient-centred, validated framework of self-management, we developed a methodology to measure and visualize which domains of self-management are supported by each discipline and by the combined team.

**Approach:** Using the TEDSS, a patient-centred, validated framework of self-management domains, structured data collection worksheets were designed to measure the support provided by individual team members in each domain. Providers in primary care teams, chronic disease teams and diabetes teams were asked about their work supporting self-management for patients with complex needs. They estimated the proportion of time spent in each of seven TEDSS domains and identified perceived gaps in patient support. Data were aggregated at the team level, across groups of teams and by discipline. Data were presented visually and validated in team meetings.

**Results:** Mapping self-management support uncovered unique, duplicate and overlapping contributions of team members. In primary care teams, nurse practitioners' support mirrored that of family doctors while registered nurses and licensed practical nurses each made unique contributions to self-management support. In a chronic disease team, individual providers discovered they were duplicating efforts rather than working to scope. Comparison across similar teams found differing service delivery. While diabetes teams primarily focused on supporting disease controlling strategies and healthy behaviours they differed significantly in their support for goal setting and action planning. Aggregating data across teams also illuminated differing scopes of practice. Type of nursing qualification altered team contribution. Professions such as social work, pharmacy, and occupational therapy added support in areas such as internal management.

**Conclusion:** Mapping of complex care has potential to inform improvements by comparing and contrasting service delivery, and identifying strengths, weaknesses and gaps at the team and system level. Next steps are to automate the method, understand why differences exist, and gather data from patients to understand their experiences with self-management support.

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**Category:** Poster

**Primary Theme:** Indigenous Health

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Indigenous peoples of Australia are more likely to develop end stage kidney disease than the general population and unfortunately this incidence is steadily increasing. Hemodialysis and Peritoneal dialysis are highly invasive, time consuming and require a strict fluid and dietary intake. Many patients travel long distance or even relocate from their community to access life-saving therapy. This study identified the complexities experienced by Indigenous peoples journeying through the health system to inform responsive care.

**Approach:** This Honours study was part of a larger Kidney Health Knowledge Translation project. Aboriginal Reference Group members and an Aboriginal mentor/researcher volunteered to be involved in interviews, piloting and co-designing a new Yarning Up patient journey mapping questionnaire.. Three in-depth interviews were audio-recorded and written as case studies. These were transcribed, validated by participants and then thematically analysed. Emerging themes were presented back to the community and to health care providers, and help to inform new national clinical guidelines. Wider use of the new questionnaire was then discussed by the wider Reference Group and research team.

**Results:** Similar themes emerged among the three participant journeys despite vast differences in the time since diagnosis, duration of treatment and modality undertaken. High level themes include: 1) difficulty accessing primary and specialist health care; 2) health literacy /information provided was often overwhelming and difficult to understand; 3) Cultural safety – participants did not always feel that their cultural needs were acknowledged by health carers ;4) Support services – accessing needed services was difficult and became an additional burden.

**Conclusion:** Indigenous patients with end stage kidney disease encounter multiple barriers when accessing renal healthcare services, from diagnosis with chronic kidney disease, to the commencement and ongoing access, to renal replacement therapy. This study has demonstrated the need for the development of specific guidelines for the management of Indigenous patients with

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## *The Inpatient Experience of Children with Medical Complexity at Two Children's Hospitals*

Mr. Kyle Kemp, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Children living with Medical Complexity (CMC) may experience significant functional limitations, resulting in frequent hospital admissions. Many studies have examined the experience of CMC; primarily from a qualitative perspective. Validated surveys can inform the design of targeted quality improvement processes. Our objectives were to a) examine the comprehensive inpatient experience of CMC using a validated survey, and b) compare results from parents with CMC to all other respondents, from two children's hospitals in Alberta.

**Approach:** Parents completed the Child-Hospital Consumer Assessment of Healthcare Providers and Systems (Child-HCAHPS) survey via telephone within 6 weeks of hospital discharge. Surveys were linked with inpatient records, and an accepted case definition was used to extract records pertaining to CMC. We examined 41 individual questions and 4 rating scales from the Child-HCAHPS survey. Individual questions pertained to specific care processes, while rating scales asked respondents about overall care, doctors, nurses, and their willingness to recommend the hospital to others. Survey responses were reported as percent in "top box", as represented by the most positive answer choice to each question.

**Results:** From October 2015 to March 2019, 4,401 surveys (1,653 CMC, 2,748 no CMC) were collected. Among CMC, highest-rating questions pertained to parents understanding their role in caring for their child (89.3% in "top-box"), doctors treating parents with courtesy and respect (88.3%) and providers talking with parents about caring for children after leaving the hospital (87.8%). Lowest-rating questions dealt with hospital room quietness at night (46.7% in "top-box"), providers having a good understanding of the child's condition/medical history (56.9%), and nurses encouraging children to ask questions (58.1%). When comparing "top-box" response percentages between groups, parents with CMC reported lower results on 26 of 41 individual questions, and 3 of 4 rating scales. Only doctors had a higher overall rating among parents with CMC.

**Conclusion:** Parents of CMC revealed many perceived gaps in care. As the Child-HCAHPS is administered on a continuous basis, the underlying data is well-suited to plan-do-study-act (PDSA) and audit and feedback activities. Future studies can also explore the data in the context of other health system measures (e.g. readmissions, adverse events).

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## *Factors affecting access to administrative health data for research in Canada*

Ms. Cynthia Kendell, Dalhousie University/Nova Scotia Health Authority

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Researchers across Canada report experiencing challenges when attempting to access administrative health data for research. Focusing on three provinces, this study aims to identify the factors associated with access to administrative health data for research and how these vary across provinces. The specific objectives are to: (1) describe data access policies and processes, (2) explore researchers' experiences accessing data, and (3) examine the perspectives of those involved in data access regulation and oversight.

**Approach:** This study will use a qualitative, multiple-case study design. A case, comprised of a provincial data repository and relevant stakeholders, will be identified in each of Nova Scotia, Ontario, and British Columbia. Data collection will include semi-structured interviews with (1) researchers and (2) individuals involved in the regulation and oversight of data access. Interview data for each group will be analyzed separately using constant comparative analysis. Document analysis, which will occur iteratively, will inform interview guide adaptation, and supplement interview data. Each case will be analyzed separately (within-case analysis), before being considered alongside other cases (cross-case analysis).

**Results:** As the first in-depth study examining access to administrative health data for research in Canada, this study is expected to make several substantive contributions to knowledge. First, the main outcome of this study will be a mid-range theory explaining inter-provincial variations in access to administrative health data in Canada. Second, this study will provide evidence regarding whether, and the extent to which, Canadian researchers are experiencing barriers to data access. Third, this study will provide detailed descriptions of the policies and processes for accessing administrative health data for each of the provincial data repositories included in this study. In addition to substantive contributions, this study will contribute conceptual knowledge through the development of a taxonomy of factors affecting access to administrative health data.

**Conclusion:** Findings will inform the development and implementation of strategies to improve access to administrative data for research in Canada. Potential benefits of improved data access include: improved efficiency of research, timely access to research evidence by decision-makers, and improved healthcare organization and delivery.

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## *The ICD-11 Field Trial: Clinical Coder's Experience and Feedback on the International Classification of Diseases, Eleventh Revision*

Ms. Shahreen Khair, Centre for Health Informatics, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** To answer questions on comparability between the International Classification of Diseases, Tenth Revision (ICD-10-CA) and the Eleventh Revision for Mortality and Morbidity Statistics (ICD-11 MMS), a dually coded database (ICD-10-CA and ICD-11 MMS coded data) was created by the clinical coders (CCs) during an ICD-11 field trial. This study focuses on CC's user experience, and feedback, which enabled the ICD-11 MMS browser code content and terminologies to be updated prior to its launch in 2018.

**Approach:** The dually coded database was created from a random sample of discharges occurring between January to June 2015, in three large teaching hospitals in Calgary, Alberta. Charts were previously coded using ICD-10-CA, then re-coded using ICD-11 MMS codes by six CCs, trained by a team at the University of Calgary, which is a WHO Collaborating Centre for Classification, Terminology, and Standards. Throughout the coding phase, the CCs kept detailed field notes on coding issues and questions. These issues were addressed at monthly meetings that included the academic study team, Canadian Institute for Health Information members, and a WHO terminologies specialist.

**Results:** In total, 3011 hospital charts were coded using ICD-11. While much richer detail could be coded to describe a patient's health, the CCs identified some challenges when using the ICD-11 browser and coding tooling. Field notes kept by CCs revealed gaps in ICD-11 (missing/ duplicate codes, post-coordination code choices, decision-making for cluster codes). For example, "FA01.0 Primary osteoarthritis of knee was missing post-coordination for laterality and specific anatomy." Such comments were promptly repaired in the browser by the WHO coding specialist, and other larger issues were referred to the Classification and Statistics Advisory Committee of the WHO for a ruling. After coding using ICD-11 over a 6-month period, multiple improvements were made to the ICD-11 browser and extensive content was recommended for the ReferenceGuide.

**Conclusion:** As a result of detailed field notes and intensive structured review process, recommendations from the clinical coders were effectively communicated back to the World Health Organization. The ICD-11 MMS browser, terminologies and electronic tooling were improved based on the pertinent feedback and coding results from this field trial.

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*Lifestyle and Nutrient Intake of Pregnant Women residing in the Inner-city Winnipeg and Northern Manitoba. Implications for Fetal Alcohol Spectrum Disorder policy and practice.*

Mrs. Olena Kloss, University of Manitoba

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Planning maternal programs requires a comprehensive understanding of all maternal behaviors, especially the ones associated with fetal alcohol spectrum disorders (FASD). Compromised maternal nutrition is identified as one of the major factors contributing to FASD. However, the information on nutrition status and dietary behaviors of women at-risk is scarce. Therefore, this study aimed to identify and compare nutrition status, dietary intake, and lifestyle patterns of pregnant at-risk and non-at-risk women.

**Approach:** Through the partnerships with two Northern communities in Manitoba and maternal programs in central Winnipeg, 115 pregnant women (56 from Winnipeg and 58 from the communities) ages 14-42 were interviewed. Using an interactive and previously tested questionnaire, information was obtained on participant demographics, dietary intake, substance use, pregnancy outcomes and maternal health. A food frequency questionnaire and 24-hour recall were used to determine nutrient intake. Nutrient values were assessed using Dietary Reference Intakes (DRIs).

**Results:** At-risk women had lower intakes of folate (435µg vs 544µg:  $p<0.05$ ), Vitamin C (153mg vs 208mg:  $p<0.05$ ), choline (449mg vs 591mg,  $p<0.05$ ), Vitamin B12 (11µg vs 16µg;  $p<0.05$ ), calcium (969mg vs 1251mg ;  $p<0.05$ ), and iron (22mg vs 27mg;  $p<0.05$ ). Furthermore, over 50% of women at-risk were below the Dietary Reference Intakes for vitamin A, folate, choline, DHA, calcium, and Iron. Women from Winnipeg had significantly higher exposure to cigarette smoking (4 vs 2.5 cigarettes/day  $p<0.05$ ). As for pregnancy outcomes higher number of pregnancies (5 vs 4  $p<0.05$ ), still births (0.3 vs 0  $p<0.05$ ), and pre-term births (0.7 vs 0.1,  $p<0.05$ ) was observed in women residing in the North compared to Winnipeg.

**Conclusion:** Through the partnerships with two Northern communities in Manitoba and maternal programs in central Winnipeg, 115 pregnant women (56 from Winnipeg and 58 from the communities) ages 14-42 were interviewed. Using an interactive and previously tested questionnaire, information was obtained on participant demographics, dietary intake, substance use, pregnancy outcomes and

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Indigenous Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** The knowledge gap exists with respect to baseline maternal nutrition status and dietary intake information among Indigenous women living on reserves, due to exclusion of First Nations individuals living on reserves from major national health surveys. The objective of this study was to explore nutrition status and lifestyle patterns of pregnant Indigenous women living in Northern Manitoba.

**Approach:** Through community engagement with First Nations communities in Manitoba, a total of 59 pregnant First Nations women, ages of 14-45 years old, from two Northern communities participated in the study. An interactive questionnaire collected data on participant demographics, lifestyle parameters, and pregnancy. A food frequency questionnaire and 24-hour recall were used to determine nutrient intake. Nutrient adequacy was assessed using Dietary Reference Intakes.

**Results:** Estimated 94% of pregnant women did not meet the recommended serving size based on the past Health Canada's Food Guide for Fruit and Vegetable and Milk and Alternatives food groups, and 88% and 78% did not meet the recommendations for Meat and Alternatives and Grain food groups respectively. In terms of individual nutrients, over 80% of women did not meet the recommendations for folate, 93% for DHA, 60% for Calcium, and 75% for Iron. The pregnant women also reported having poor food access and food availability. Approximately 40% of women reported consuming alcohol; 49% smoked cigarettes 93% of which smoked regularly. Drug use among participating mothers was 24%, with marijuana being the main one.

**Conclusion:** These study outcomes display that pregnant women residing in Northern communities have low intake of nutrients, have higher exposure to alcohol, smoking and illicit drug use. This information provides health-care and policy professionals with critical data for best-practice policies and advocacy to benefit individuals, families and communities in Northern Manitoba.

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## *A Qualitative Study of Health Care Service Use across Phases of Alzheimer's Disease Caregiving*

Ms. Kristina Kokorelias, Department of Occupational Science & Occupational Therapy, University of Toronto

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Caregiving is not static and changes across the illness trajectory. Understanding caregiving phases allows the provision of timely supports and services to maximize caregiver and care recipient quality of life. Our first research objective was to determine phases of caregiving throughout the Alzheimer's disease trajectory. Our second objective was to explore service use decision-making across these caregiving phases.

**Approach:** We applied a constructivist grounded theory approach to data collection and analysis. Forty spousal (10 husbands+ 10 wives) and adult children (10 sons+ 10 daughters) caregivers to persons with Alzheimer's disease were recruited and interviewed using a semi-structured interview guide.

**Results:** We identified 5 phases reflecting caregiving roles related to: 1) monitoring initial symptoms, 2) navigating diagnosis, 3) assisting with instrumental activities of daily living, 4) assisting with basic activities of daily living, and 5) preparing for the future. Service use was influenced by two key factors that evolve over the caregiving phases: the goals of caregiving and the practicalities of accessing services. Caregivers select services to meet their care goals as they evolve across phases of caregiving. Practical factors also influence the decision-making processes and are often related to personal, family, and/or external factors that relate to the feasibility of obtaining a certain service. We were not able to identify any differences by gender or relationship.

**Conclusion:** We identified five distinct phases of caregiving and factors influencing service use decision making across the Alzheimer's disease trajectory. Caregiver decision-making regarding service use remains contextual to the changes in the caregiving and illness trajectories. Findings can be used to inform the development, evaluation, and implementation of services to meet

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## *Advancing a Population Health Needs Framework for Service Planning: A Summary of Evidence*

Dr. Jacqueline Krysa, Alberta Health Services

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Although Alberta's healthcare system was designed to primarily address medical needs, a more holistic approach addressing upstream determinants is now recognized by leadership as a significant predictor of health outcomes. A framework for service planning that defines population health needs and provides a process to address these needs within and across local health service partners is currently being developed with health, community and social service partners.

**Approach:** Common definitions and domains addressing population health needs for service provision were synthesized from previous research. This study included a review of peer-reviewed and grey literature and interviews with leaders and service planners in Alberta Health Services and with community partners. Following this, we plan to synthesize definitions and domains that will be informed by health system leaders (n=21) and broader stakeholders (n=145) in Alberta using three rounds of iteration from a modified Delphi technique. Leadership and broader stakeholders were approached by email and will be given the opportunity to answer an online survey and attend three online webinar sessions.

**Results:** Previous research sources provided common terms addressing population health needs, including: 'addressing the social determinants of health', 'access to medical and community services', and 'addressing health inequities'. Relevant domains addressing needs from these sources included: (1) physical, biological, and mental health, (2) health environment and behavior, (3) community adaptiveness, (4) access to health care, and (5) socioeconomic and political context. Initial discussions with health system leadership revealed strategies to increase the effectiveness of the framework and advance inter-sectoral partnerships. It was indicated that presenting common outcomes, introducing the strategic planning process, and discussing information management requirements would enhance the effectiveness of the framework. Additionally, establishing a clear vision for all stakeholders, and informing engagement strategies were important factors to advancing inter-sectoral partnerships.

**Conclusion:** This framework will propose strategies that can be incorporated into Alberta's provincial, zone and local planning delivery systems. It is a first step in addressing health inequities and will form a foundation for how the health care system can begin addressing population health needs.

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## *Adequacy of care for common mental disorders in older adults consulting in primary care in Quebec*

Ms. Catherine Lamoureux-Lamarche, University of Sherbrooke

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** In Canada, less than one in two adults with common mental disorders (MD) received adequate treatment in the past year. Data on adequacy of care for depression and anxiety disorders in older adults are scarce. The aim of this study was to describe adequacy of pharmacological and psychological treatment received by older adults with common MD and assess the association between adequacy of care received and the persistence of common MD three years later.

**Approach:** The analytic sample included 353 older adults with depression or an anxiety disorder consulting in primary care and participating in Quebec's longitudinal ESA-Services (2011-2016) study of primary care patients. Adequacy of pharmacological and psychological treatment was measured using administrative and self-reported data and based on Canadian guidelines and relevant literature. The persistence of common MD was defined by the presence/absence of at least one common MD at baseline and at follow-up, 3 years later. Logistic regression analyses were used to evaluate the association between adequacy of care and persistence of common MD controlling for socio-demographic and clinical factors.

**Results:** In this study, 53% of older adults with depression and 37% with an anxiety disorder received adequate pharmacological or psychological treatment. Close to 1 in 3 older adults with a common MD did not receive any pharmacological or psychological treatment. Among participants receiving at least one treatment, 78% and only 2% received adequate pharmacological and psychological care. Nearly 90% of older adults with a common MD did not received any psychological treatment. Adequacy of care was marginally ( $p=0.06$ ) associated with increased likelihood of a persistent common MD over a 3-year period.

**Conclusion:** Adequacy of care was not associated with a reduced likelihood of persistence of common MD. A small proportion of patients received psychological treatment and rare are those receiving adequate care. Future studies should focus on the effects of receiving inadequate care in terms of patient treatment preferences and healthcare costs.

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## *Improving Collection and Reporting of Opioid Overdose Cases*

Mrs. Alana Lane, Canadian Institute for Health Information

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Opioid overdose is currently a high priority health and social issue across Canada. Concern was raised over the potential for under-reporting of opioid overdoses captured using the International Classification of Diseases and Related Health Problems, 10th edition, Canada (ICD-10-CA), in hospital administrative databases. The objective of this collaborative work was to support improvement of national opioid overdose reporting and further advance actionable analysis by ensuring the collection of high quality and timely opioid data.

**Approach:** Analysis of ICD-10-CA coded hospital data highlighted possible under-reporting of opioid overdoses in Canada. Three key issues associated with under-reporting were identified: 1) ambiguous clinical documentation in the patient chart; 2) hospital coder code assignment challenges; and 3) gaps in the classification of opioids.

A multi-pronged approach was developed to address these issues:

- education for hospital coders responsible for ICD-10-CA code assignment,
- communication to physicians to improve clinical documentation in the patient record (the source used by coders to assign codes), and
- work with external stakeholders to enhance the classification of opioids to ensure relevant and accurate information.

**Results:** Actions taken to improve opioid data resulted in:

- Public reporting of timelier, comprehensive data due to higher data quality confidence.
- Guidelines for physicians to use to improve patient chart documentation related to opioid overdose cases.
- Clarification for hospital coders to improve data capture of questionable opioid overdose cases.
- New direction for hospital coders which allows the coding of opioid overdoses:
  - o Documentation of the administration of opioid antidote (Narcan) with a positive result in the absence of specific documentation of overdose;
  - o The use of non-physician documentation to confirm a diagnosis of opioid overdose.
- Enhancements in version 2018 ICD-10-CA to identify cases of opioid overdose related to specific types of opioids, e.g. fentanyl, hydromorphone, oxycodone.

**Conclusion:** Initiatives to improve data collection of opioid overdose cases supports national reporting by providing high quality comparable and actionable information that can track progress over time. This can also contribute to decision-making processes by signaling where actions or improvements may be required to support the opioid overdose crisis in Canada.

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## ***‘READYorNot™’ for CHD – A Multidisciplinary Collaboration to Develop a Smartphone Application for Congenital Heart Disease Patients***

**Dr. Andrew Mackie, University of Alberta**

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Congenital Heart Disease (CHD) is the most common birth defect, affecting 1% of children. With advances in medical and surgical care, over 90% of children now survive to adulthood and require lifelong follow-up. Transition from pediatric to adult care is a resource-intensive process that impacts patients, families, health systems, and providers. There is a growing need for interventions that bridge care from pediatric to adult healthcare systems. We propose a Health Information Technology (HIT) solution.

**Approach:** A multidisciplinary collaboration —combining clinical psychology, technology development, CHD expertise and patient engagement— has been initiated to develop and clinically validate the READYorNot™ e-Health intervention to improve transition readiness in 16-17-year olds with CHD. A multi-step design is being undertaken to create the HIT tool and then test it in a randomized clinical trial against a previously validated nurse-led intervention. App development includes input from a Patient Advisory Committee and focus groups using Agile methodology which offers our team the necessary flexibility to adapt to user requirements and facilitate acceptance and uptake.

**Results:** We are creating the MyREADY Transition™ CHD App, adapting the content from the previously developed MyREADY Transition™ technical platform developed for children with brain-based disabilities. This will be shared with other stakeholders in order to ensure that the App effectively meets end-user requirements, conforms to quality standards, exposes technology deficiencies and unmet patient needs with the aim to optimize user experience and adherence. The READYorNot™ intervention gaming approach takes the form of a “Journey in the City” with a mentor that will help the user to navigate different settings, and will sequentially introduce the 20 educational sections with videos and skill-based-achievement challenges along a 6- week training curricula.

**Conclusion:** The READYorNot™ intervention is expected to provide a scalable tool to improve quality of care and CHD patient and family experience during transition. Our findings are also expected to be relevant to guidelines and policy recommendations for a growing number of patients with lifespans conditions that start in childhood.

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## *Improving ICD-10-CA coded administrative data collection for Mental and behavioural disorders due to psychoactive substance use*

Ms. Janice MacNeil, Canadian Institute of Health Information

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Harm from substance use is an area of growing focus in Canada and administrative data can provide valuable information. However, results of a newly developed indicator, Hospital Stays for Harm Caused by Substance Use, showed high volumes (12%) of an ICD-10-CA code not easily actioned (F19: Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances). The Canadian Institute for Health Information wanted to identify opportunities for data improvement.

**Approach:** CIHI initiated a clinical documentation review of cases with codes assigned for Mental and behavioural disorders due to psychoactive substance use. With the support of Canada's National Classification Advisory Committee, 54 charts from 7 provinces were reviewed. This included a mixture of inpatient and emergency department cases. For each case, CIHI Classification Specialists reviewed and analyzed the clinical documentation to identify challenges and opportunities for improved data collection. (i.e. greater specificity)

**Results:** The review of clinical documentation identified the following areas for improvement:

- o Investigate specificity of clinical documentation for capture of substance use diagnoses
- o Provide coding direction for classifying drug use versus harmful use
- o Clarify coding of conditions due to substance use
- o Clarify application of diagnosis typing rules for substance use
- o Enhance category F19 Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances ICD-10-CA version 2021 to distinguish cases of "Other specified", "Unspecified multiple", and "Unknown"

The areas for improvement will be addressed by developing a new Coding Standard for version 2021, enhancements to the classification and providing coding education along with making recommendations for clinical documentation improvement.

**Conclusion:** Better data can support improved substance use action across Canada. CIHI's review of clinical documentation is informing enhancement of the Canadian Coding Standards and identifying opportunities to improve classification and clinical documentation. These initiatives offer a path to improve the quality of the information available for reporting on substance

**Author Names:** Janice MacNeil, Canadian Institute of Health Information; Cassandra Linton, CIHI



## *Patient and public involvement of older adults in research: implementation and impact*

Ms. Maggie MacNeil, McMaster University

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Canada's Strategy for Patient Oriented Research envisions patients as active partners in health research as a way to improve health outcomes and enhance the health care system (CIHR, 2014). Extending this principle to older adults is relevant given that they are frequently the patients served by Canadian health care systems. As patient and public involvement (PPI) of older adults in research becomes more widespread, questions remain about timing, methods and impact of this involvement.

**Approach:** A systematic review was conducted to understand how PPI of older adults in health research been implemented and with what impacts. Four databases were searched (2000-2019); 44 articles were included for qualitative synthesis. The Guidance for Reporting Involvement of Patients and the Public (GRIPP2) (Staniszewska, 2017) reporting checklist guided the extraction of the articles. Reviewers extracted methodological data; how PPI was used at different stages of research; factors that enabled or hindered PPI; positive/negative impacts of the PPI on research; positive/negative results of the PPI; conceptual influences and main conclusions of the study.

**Results:** Designs of included studies were influenced by theories of Participatory Action Research and Community-Based Participatory Research. PPI implementation activities involved research partner contributions to most phases of the research process including grant development, participant recruitment, data collection and analysis.

PPI impact evaluation varied across studies, and in many studies, was not discussed. Studies which addressed research impacts of PPI, reported a rich, clear, nuanced understanding of experiences of older adults. Other studies reported more tailored dissemination strategies for research findings within non-medical communities. Some studies identified impact as creating new research partnerships or continued collaboration between co-researchers on different projects. One study found that PPI influenced patients to begin self-managing care.

**Conclusion:** Implementation of involving older adults in research was explored more frequently than evaluating PPI impact, although some tangible impacts were identified. PPI impact evaluation is an emerging science that would benefit from further study, especially to capture long-term impacts.

**Author Names:** Maggie MacNeil, McMaster University; Rebecca Ganann, McMaster University; Julia Abelson, McMaster University; Diana Sherifali, McMaster University; Donna Fitzpatrick-Lewis, McMaster University ; Maureen Markle-Reid, McMaster University; Parminder Raina, McMaster University

## *Discussing Health Technology Policy Questions with Older Adults and Caregivers*

Ms. Maggie MacNeil, McMaster University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Collaborative research has moved into the mainstream as government funding agencies mandate engagement and/or integrated knowledge translation in grant proposals (Oliver et al., 2019). A collaborative approach was used to design a focus group interview to gather the perspectives of older adults and caregivers on key policy issues relevant to health technology innovation and adoption.

**Approach:** Thematic analysis (Braun & Clarke, 2006) was used to recode a scoping review (MacNeil et al, 2018) and the results of 44 qualitative interviews (with relevant stakeholders) to discern key themes related to facilitators and barriers of health technology innovation and adoption. The key themes were re-worded to create discussion questions. I worked with an older adult who belonged to a network of older adult research partners (SHARP) to design the materials and structure of the focus group session. This process helped to order the discussion questions to best generate discussion and eliminate questions which he felt were too complex.

**Results:** Four older adults participated in the focus group session. Five themes were identified throughout the focus group: integration, reporting relationships, varied abilities, government as a hub, and cost vs. benefit.

The older adults desired integrated technologies and see technology as a way to bridge silos between care settings for example, primary care and acute care. This group brought up questions about who and how responsibility to respond to information generated by technology, should be assigned. The heterogeneity of older adults' range of interest and capacity for technology use was discussed. Governments were seen as a hub to coordinate access to promising new technologies. Participants were attuned to the challenges of accounting for all the costs and benefits new technologies could offer

**Conclusion:** Working with an older adult to design materials and a process to engage older adults in a focus group ensured appropriateness. A rich discussion covered key issues in health technology policy including: interoperability; responding to technology-generated health information; role for government and challenges demonstrating value of a promising technology.

**Author Names:** Maggie MacNeil, McMaster University; Don Juzwishin, Alberta Health Services; Paul Stolee, University of Waterloo; Peter Christian, Seniors Helping as Research Partners (SHARP)

## *Pharmacists chronic disease management in Chronic Obstructive Pulmonary Disease (COPD): effect on health services utilization*

Dr. Tatiana Makhinova, University of Alberta

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**Category:** Poster

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Chronic obstructive pulmonary disease (COPD) is a major source of morbidity, mortality, and economic costs. Pharmacists can be instrumental in improving care and reducing the cost burden by providing reimbursed services, such as comprehensive annual care plans (CACP). The objectives of this study are to characterize the population of COPD patients who receive a CACP, and to evaluate any changes in healthcare utilization for such patients, including COPD-specific hospitalizations and emergency room (ER) visits.

**Approach:** COPD patients who received a CACP in Alberta from 2012-2016 were identified within the administrative data. Each of these patients were matched with two control patients based on age, sex, provider, date of service, and qualifying comorbidities. A descriptive analysis was used to characterize patients who received a CACP, as well as the control group. An interrupted-time series analysis was used to evaluate changes in COPD-specific hospitalizations, ER visits and physician visits. Immediate and temporal changes were calculated for the difference in outcomes one year before and one year after receiving the CACP for the intervention group and matched controls.

**Results:** Eligible patients (N=74,365), of whom 28,795 (38.7%) had received CACPs were matched to a total of 45,570 controls. Patients' mean age was 70 (SD=12) years old. Other comorbid qualifying conditions were common, such as hypertension (85%), mental health disorder (84%), asthma (52%). The time-series analysis showed that in one year after the CACPs implementation the number of COPD hospitalization visits increased by 110 (95% CI 96.6 to 123.7) per 10,000 patients per month, ER visits increased by 168 (95% CI 60.1 to 276.6) per 10,000 per month, and general practitioners (GP) visits decreased by 98 per 10,000 per month (95% CI -103.3 to -92.9) when compared to the matched controls.

**Conclusion:** Pharmacists have extensively administered CACPs to COPD patients since 2012. Collectively, it is unclear if CACPs have benefited patients as although reductions in physician visits were observed increases in both ER and hospitalizations for COPD were also observed.

**Invited Experts:**

**Author Names:** Tatiana Makhinova, University of Alberta; Dean Eurich, University of Alberta; Jeffrey Johnson, School of Public Health, University of Alberta ; Candace Necyk, University of Alberta; Mohit Bhutani, University of Alberta; Jasjeet Minhas-Sandhu, University of Alberta; Debyani Sarker, University of Alberta

## *Comprehensive Care Plans for Patients with Chronic Obstructive Pulmonary Disease (COPD): effect on health services utilization*

Dr. Tatiana Makhinova, University of Alberta

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**Category:** Poster

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** Chronic obstructive pulmonary disease (COPD) is a progressive lung disease worldwide, with cost-incurring healthcare practices. In 2009, the Government of Alberta enacted a reimbursement model for physicians to develop a comprehensive annual care plan (CACP) for patients with common chronic conditions. The objectives of this study are to characterize the population of COPD patients who receive a CACP, and to evaluate any changes in healthcare utilization, including COPD-specific hospitalizations and emergency room (ER) visits.

**Approach:** COPD patients who received a CACP in Alberta from 2009-2016 were identified within the administrative data. Each of these patients were matched with two control patients based on age, sex, provider, date of service, and qualifying comorbidities. A descriptive analysis was used to characterize patients who received a CACP, as well as the control group. An interrupted-time series analysis was used to evaluate changes in COPD-specific hospitalizations, ER visits and physician visits. Immediate and temporal changes were calculated for the difference in outcomes one year before and one year after receiving the CACP for the intervention group and matched controls.

**Results:** Eligible patients (N=93,607), of whom 39,393 (42.1%) had received CACPs, were matched to a total of 54,214 controls. Patients' mean age was 66 (SD=13) years old. More than half of the patients (59% of cases and 66% of controls) had recorded diagnosis of COPD, unspecified (ICD-9 496.x), the rest had chronic bronchitis and emphysema (ICD-9 491-2.x). The time-series analysis showed that in one year after the CACPs implementation the number of COPD hospitalization visits decreased by 729 (95% CI -176.5 to 306.9) per 10,000 patients per month, ER visits decreased by 324 (95% CI -448.8 to -199.6) per 10,000 per month, and general practitioners (GP) visits decreased by 180 per 10,000 per month (95% CI -187.0 to -173.3) when compared to the matched controls.

**Conclusion:** Physicians have extensively administered CACPs to COPD patients since 2009. Our analyses indicated clinically relevant improvements in healthcare utilization post-CACP compared to matched controls.

**Author Names:** Tatiana Makhinova, University of Alberta; Dean Eurich, University of Alberta; Jeffrey Johnson, School of Public Health, University of Alberta; Candace Necyk, University of Alberta; Debyani Sarker, University of Alberta; Jasjeet Minhas-Sandhu, University of Alberta; Mohit Bhutani, University of Alberta

## *How successful are newly certified medical specialists at finding employment?*

Dr. Myuri Manogaran, Royal College of Physicians and Surgeons of Canada

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**Category:** Poster

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Despite troubling patient wait lists, a number of newly minted medical specialists in Canada face employment challenges at time of certification. Since 2011, the Royal College of Physicians and Surgeons of Canada (RC) has been examining the breadth of this new phenomenon and underlying causes.

**Approach:** Quantitative data has been collected through two online surveys:

1. A survey (full cohort) issued between 4-12 weeks following the final RC certification examination to all successful certificants. The survey was sent out to almost 20,000 new certificants and has received over 7000 responses from 2011-2018. Yearly response rates vary from 32%-40%.
2. A follow-up survey sent only to certificants who had reported employment challenges when completing the initial survey. This shorter survey was initiated in 2014 and issued to 823 certificants to date (2018). Of those, 389 responded with an average response rate of 49%.

**Results:** Since 2011, between 11-18% of new specialists who responded to the Employment Survey said they did not have work as a specialist after certification. Greater employment challenges continue to persist for specialists in surgery and other resource-intensive disciplines. Approximately half of newly certified specialists are pursuing additional training stating a belief that this will make them more employable in the long-run.

The follow-up survey to the cohort reporting employment challenges, reveal that from 2013-2017, an average of 66% of those reporting employment challenges at the time of certification had secured a clinical position.

Certificants in both surveys point to a lack of available positions, poor access to job listings and personal factors as barriers to employment post-certification.

**Conclusion:** Data collection has consistently found that a number of RC certificants in Canada continue to face employment challenges at time of certification. Ongoing data collection will help monitor the impacted disciplines and identify new trends as part of our efforts to help inform Canadian medical workforce and career planning.

**Author Names:** Myuri Manogaran, Royal College of Physicians and Surgeons of Canada ; Danielle Fréchette, Le Collège royal des médecins et chirurgiens du Canada - The Royal College of Physicians and Surgeons of Canada; Arun Shrichand, Royal College of Physicians and Surgeons of Canada

## *Seeing what's down the road: Visualizing medical workforce change in the context of patient and population health care needs*

Dr. Myuri Manogaran, Royal College of Physicians and Surgeons of Canada

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**Category:** Poster

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Physicians provide a broad spectrum of patient care, ranging from prevention to diagnosis, treatment and rehabilitation. Canada's physician workforce data is fragmented and, as a result, does not reveal important trends that can impact patient access to medical care. The Medical Workforce Knowledgebase (MWK) integrates and visualizes data to support health workforce planning that responds to patient and population needs.

**Approach:** The MWK gathers data from authoritative national sources, analyzing and visualizing data to provide a comprehensive physician workforce overview. MWK metrics reflect the system's capacity to produce new physicians (based on residency quota); the earliest indicators of future physician supply (based on new trainees and certificants); as well as workforce age-sex demographics (based on licensed physician data). Descriptive statistics – including counts, percentages, ratios and linear trends – highlight physician workforce changes for the five-year period 2013-2017. Using PowerBI, MWK visualizations illustrate macro level workforce changes and allows users to drill down on specialty and subspecialty workforce changes.

**Results:** While Canada's total physician workforce has grown steadily since 2013 (approximately 2200 physicians entering the workforce yearly), there are marked specialty-level supply and demographic variations. The total number of new trainees and licensed physicians has grown steadily since 2013. Overall, family medicine experienced growth in all four stages of the supply chain. Laboratory specialties and pediatric subspecialties saw little change in early supply. Surgical specialties in particular are experiencing a substantial downturn in supply. The number of incoming (<35) and potentially departing (65+) licensed physicians was equally balanced as of 2017 and the gender ratio of the total licensed physician population is represented by a larger proportion of male physicians compared to females (59% vs. 41%).

**Conclusion:** The Knowledgebase signals change for Canada's future medical workforce. In particular, a decreased number of surgical trainees coupled with a relatively older workforce portends fewer surgical specialists in the future. Supply factors, like retirement and IMG recruitment, could mitigate or exacerbate physician workforce supply trends.

**Author Names:** Myuri Manogaran, Royal College of Physicians and Surgeons of Canada ; Steve Slade, College of Family Physicians of Canada; Shanna DiMillo, Royal College of Physicians and Surgeons of Canada

## Neurosurgical Safe Transition E-Program (NeuroSTEP)

Dr. Alireza Mansouri, Penn State University

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** In surgical sub-specialties, such as neurosurgery, transitions across trajectories in care represent a pressure point regarding patient outcomes. Based on our group's research and literature, any delay in sub-specialist assessment and intervention has a clear and adverse correlation with survival and health outcomes. The CIHR Transitions in Care call is an ideal opportunity to address this clear unmet need in access through our pilot project termed NeuroSTEP (NeuroSurgery Transition E-Program).

**Approach:** NeuroSTEP has the following specific aims:

1. Streamlining of patient referrals through standardized online intake forms that allow for collection and analysis of quality metrics.
2. Creation of an individualized online dashboard that communicates with patients the latest status of their referral, upcoming appointment reminders, and provides educational material that is individualized for the diagnosis and level of acuity. This information material has been generated in consultation with patients, to ensure appropriateness of material.
3. Maintenance of continuity of care through an online dashboard for referring physicians, enabling communication and secure exchange of information.

**Results:** The primary outcome will be patient satisfaction (PSQ-18 questionnaire) through outpatient transition to neurosurgical assessment. Secondary outcomes will be 1) Impact on wait-times; 2) Referring provider satisfaction with services; and 3) cost-effectiveness.

NeuroSTEP will be implemented through a Stepped Wedge RCT design with 12 clusters, each with 15 patients; three clusters will transition in every 3 months. At 2 years, we will have 88% power to detect a 10% difference in the primary outcome. A generalized linear mixed (GLM) model will be used to account for patients clustering within regions/ healthcare providers. A time-dependent variable will be used to denote the transition from control to intervention phase. Sensitivity analyses will be conducted to evaluate the impact of different assumptions on the primary and secondary outcomes.

**Conclusion:** NeuroSTEP seeks to leverage e-health strategies to close the loop on patient and health care provider communication, promote patient empowerment, and increase overall safety of transitions across stages of care.

**Author Names:** Alireza Mansouri, Penn State University; Alexander Dahl, Akinox; Gelareh Zadeh, Krembil Brain Institute; Eric Massicotte, Toronto Western Hospital

## *The CUP Study: Examining the effectiveness of centralized waitlists in Connecting Unattached Patients to primary care providers*

Dr. Emily Marshall, Dalhousie Family Medicine

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Patients with access to a primary healthcare (PHC) provider benefit from overall better care and health outcomes. However, 15% of Canadians do not have a regular PHC provider and are classified as “unattached”. Seven Canadian provinces use Centralized Waitlists (CWLs) to coordinate linking unattached patients to a PHC provider. CWLs remain under-evaluated, and it is unknown how well CWLs attach patients to PHC providers and which component attributes and processes best facilitate CWL success.

**Approach:** The present study emanates from a CIHR SPOR Quick-Strike describing components and mechanisms of seven Canadian CWLs. The current study assesses CWL effectiveness and challenges attaching patients to a PHC provider in Nova Scotia, Ontario, and Québec. Data collection includes: linkage and analysis of CWL and billing data (Objective 1-rate/time to attachment); document reviews (Objective 2-identifying policies); and qualitative interviews with decision-makers, patients and providers (Objective 2, 3;-CWL experiences). Objective 4 amalgamates Objectives 1-3 via stakeholder dialogues, identifying CWL causal pathways, effectiveness, and recommendations for improving CWL attachment. Our key stakeholder integration on the team is crucial to this approach.

**Results:** The CWL and administrative data (Objective 1) will examine relationships between main attachment outcomes and predictors and compare across three provinces (NS, QC, ON). The qualitative Framework Method, incorporating the Tomoia-Cotisel framework, will be utilized among Objectives 2-4 to analyze the collected documents, qualitative interviews, and stakeholder dialogues.

Employing a mixed-methods approach, this research will determine and compare the effectiveness of CWLs in Nova Scotia, Ontario and Québec. These findings will further determine the impact of attachment via CWLs on healthcare utilization (pre-during-post CWL). It is anticipated this research will capture and delineate contextual and modifying factors influencing patient attachment, revealing components, processes and environments promoting PHC attachment via CWLs. Finally, this research will generate patient, provider and policymaker-informed recommendations and policy briefs.

**Conclusion:** This mixed-method collaborative study will generate an in-depth understanding of CWL effectiveness and insights into how and why variations in effectiveness exist across three provincial CWLs. Findings from this research may have widespread implications for policy and practice within PHC.

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## *Equitable Access to Naloxone in Durham Region*

Mr. Lucas Martignetti, Ontario Tech University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In 2018 there were over 1400 opioid-related deaths in Ontario. While the opioid crisis is affecting many socioeconomic groups and communities across Canada not all are being affected equally. This includes First Nations and low-income individuals who are more likely to experience opioid-related harm. Inequity exists despite the presence of naloxone distribution programs in Ontario. This exploratory study seeks to understand the facilitators and barriers that influence equitable access of naloxone programs in Durham Region.

**Approach:** An environmental scan will be conducted to examine the availability and distribution of naloxone across the community pharmacies and organizations in Durham Region. A qualitative descriptive phenomenology will be the methodological approach where key informant interviews will be conducted to explore the experiences of users and providers of naloxone programs. Key informants will consist of service providers and clients of both the Ontario Naloxone Program and the Ontario Naloxone Program for Pharmacies in Durham Region. The harm reduction framework will be used to guide the data analysis where thematic analysis will be performed on the collected interview data.

**Results:** The environmental scan will result in the creation of a map that clearly outlines the availability and distribution of naloxone programs to examine the possible gaps that exist in Durham Region. It is expected that the key informant interview findings will help to understand where inequity exists in accessing Ontario's naloxone distribution programs in Durham Region by highlighting its barriers and providing recommendations for future improvement. Success stories can also be found in identifying what facilitates equitable access by vulnerable populations and can inform recommendations for future improvement.

**Conclusion:** Findings generated will be used for larger scale studies in the future examining equitable access of naloxone distribution programs in Canada. This study will have implications to provide recommendations to policymakers for developing new policies to facilitate timely access of naloxone for users to mitigate their risk of opioid-related harms.

**Author Names:** Lucas Martignetti, Ontario Tech University; Winnie Sun, University of Ontario Institute of Technology

## *Prioritizing Coordination of Primary Healthcare*

Ms. Vaidehi Misra, Western University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** In Canada, primary care has been a foundation for health system improvement, but support has been lacking in the coordination of care between primary and other healthcare sectors. The impact of weak care coordination on patients' quality of care, access to care, and quality of life, cannot be ignored. This case report explores the implementation of an innovative coordination improvement model called the Primary Care Connections (PCC) in a clinic under a Family Health Team.

**Approach:** Members of the clinic who implemented the PCC model participated in semi-structured interviews and provided insights into the implementation process.

**Results:** The case report identifies three successes and three challenges associated with implementation of the PCC model. Successes associated with implementation of the PCC model relate to the relationship between healthcare providers and patients, communication, and the standard of care. Challenges associated with implementation of the PCC model relate to relationship dynamics within the clinic, sustainability, and evaluation metrics. Additionally, the case identifies three essential elements for the application of the PCC by other clinics. These elements encompass time-management and communication, bridging silos, and navigational skills.

**Conclusion:** This is a concrete example of a care coordination strategy in action. PCC demonstrates that the experience of care coordination can be improved through communication within and across sectors, leveraging resources, and streamlining organizational structures. This case is a resource for health organizations pursuing similar improvements in care.

**Author Names:** Vaidehi Misra, Western University; Shannon Sibbald, Western University; Kimia Sedig, Western University; David Dixon, West London Family Health Clinic

## *Leadership and planning perspectives on population health needs during service planning*

Dr. Mary Modayil, Alberta Health Services

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Intentionally addressing health inequities requires the support of health care leadership at many levels to ensure its incorporation into overall organizational goals. As part of an effort to develop a framework for health care service planning in Alberta, we examined how addressing population health needs might be valuable from the perspective of various health care, social and community service organization leaders and planners.

**Approach:** Semi-structured interviews were conducted with leaders and planners across the continuum of care at Alberta Health Services (n=25), and community and government partners (n=24) between January and August 2019. Purposive sampling was initially used to create a list of key stakeholders for interviews. Subsequent snowball sampling was used as interviewees recommended key stakeholders across the province. Audio recordings of interviews were transcribed verbatim. Qualitative data were coded and analyzed for themes. Themes were validated by a third independent reviewer. Team meetings were held regularly to discuss coding and themes until consensus was reached.

**Results:** Representatives from provincial health care services mentioned a mandate to serve all Albertans. Four domains were noted: addressing social determinants of health (SDOH), addressing inequities, health and wellness, care and services. The emphasis was on understanding rather than addressing SDOH. Planning approaches varied considerably. Within health care services, interviewees varied in health care service planning involvement. Community partners mentioned some work being guided through direction of a board/governance, while others did not have a structured process in place for planning. A number of community partners assessed community health needs through planning activities such as asset mapping and identifying existing strengths. Two strategies for applying a population health lens in service planning, included: engaging with partners outside their work domain and seeking information (socioeconomic, narratives, local).

**Conclusion:** Leadership and planning perspectives clarified how services address health inequities and implications of a framework for improving practice. A flexible operational framework would be helpful if focused on planning at the organizational level with a variety of resources to facilitate joint planning processes and alignment across the continuum of care.

**Author Names:** Mary Modayil, Alberta Health Services; Michele Lamont, Alberta Health Services; Judy Seidel, Alberta Health Services ; Staci Hastings, Alberta Health Services

## *The landscape of home care rehabilitation services among individuals with multimorbidity in Ontario, Canada.*

Ms. Amanda Mofina, Queen's University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Individuals with multimorbidity utilize the health care system more frequently and are at an increased risk for poor outcomes. Rehabilitation therapists (occupational therapy and physical therapy) can address the complex functional needs of this population. This study will describe and compare the characteristics of patients with multimorbidity recently discharged from hospitals in Ontario to better understand who is receiving home care rehabilitation services and subsequently, who can benefit from these services.

**Approach:** This is a retrospective cohort study that will use linked data from multiple health administrative data sources housed within the Institute for Clinical and Evaluative Sciences (ICES). The cohort includes any individual with multimorbidity who was discharged from an Ontario hospital, acute care or inpatient rehabilitation unit, between the years of 2007 and 2015. Multimorbidity is defined as having two or more chronic conditions. Measures of function will include activities of daily living, instrumental activities of daily living, and mobility. Descriptive statistical analysis will be used to describe and compare personal and clinical characteristics of these patients.

**Results:** This work is currently in progress. We will describe the clinical profile of clients with multimorbidity who are receiving rehabilitation therapy versus those who are not receiving these services. This profile will include comparative descriptives of clinical, functional and demographic characteristics between patients discharged from an acute care unit and those who are discharged from inpatient rehabilitation units. These results will provide insight into the complexities of patients seen by rehabilitation therapists across the healthcare continuum. There are potential policy and clinical practice implications through the development and implementation of clinical pathways.

**Conclusion:** This research will provide population-level data to understand the characteristics of clients with multimorbidity receiving home care rehabilitation therapy after a hospital stay versus those that are not. Furthermore, these results will identify the characteristics of clients who may benefit from therapy services and are not currently receiving them.

**Author Names:** Amanda Mofina, Queen's University; Catherine Donnelly, Queen's University; Joan Tranmer, Queen's University; Jordan Miller, Queen's University; Wenbin Li, Institute for Clinical and Evaluative Sciences

## *A Qualitative Analysis of Syrian Refugee Women's Experience with Mental Healthcare Services in Winnipeg*

Dr. Sanjida Newaz, University of Manitoba

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** The world refugee crisis is currently at a record level. Refugees have higher risk of developing mental illness like PTSD, depression, and somatic symptoms because of their exposure to violence and torture. Despite increased needs, refugees face considerable barriers in accessing healthcare services. Moreover, settling in a new country can be stressful with limited social networks and financial capital. This study explores the refugee women's mental healthcare needs and access to services in Winnipeg.

**Approach:** Semi-structured interviews were conducted with 9 Syrian refugee women and 6 service providers/decision makers in Winnipeg. Interviews with refugee women focused on their lived experience and service accessibility issues. Interviews with decision makers focused on policy measures, exploring options for community-based and culturally appropriate healthcare. The data were analyzed using qualitative thematic approach and coded for themes based on recurring issues aided by NVivo 12 qualitative software.

**Results:** Both the service providers and refugee women provided their perspective on the existing challenges and what options can be considered for service improvements. Most cited barriers in accessing mental healthcare services by refugee women were language, weather, employment and income level, stigma and system navigation. The service providers mentioned about stigma, and lack of resources to provide culturally competent care (i.e. interpretation services). While discussing service improvement options the service providers have repeatedly mentioned about collaboration among agencies, leadership at all levels and education for both refugee women and service providers. The refugee women were much concerned about their financial struggles and hope that finding an employment could help with their mental wellbeing. They also want the language programs be more flexible.

**Conclusion:** This study recommends that service providers use resources developed by UNHCR and Canadian physicians in providing culturally competent care, decision makers take leadership roles in implementing better collaboration among agencies, employers be open in hiring refugees and everyone in the society ensures that the refugee women feel welcomed and included.

**Author Names:** Sanjida Newaz, University of Manitoba

*An evaluation of the use of Community Transition Teams to improve health outcomes for individuals with an opioid use disorder following release from British Columbia Corrections, Canada*

Dr. Seonaid Nolan, British Columbia Centre on Substance Use

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** For incarcerated individuals with an opioid use disorder (OUD), the post-release period constitutes heightened vulnerability as individuals re-immense into community. Community Transition Teams (CTTs) are multidisciplinary teams of peer support workers, case managers and care providers that adopt a client-centered approach to support clients' treatment goals following release from a correctional centre. This research will evaluate health and treatment outcomes associated with the use of CTT programs in correctional centres in British Columbia (BC), Canada.

**Approach:** The Outcomes for Patients Accessing Addiction Care in a Correctional Setting (OPAC Corrections) Study will invite 400 individuals living with an OUD who are incarcerated in BC to complete a one-time questionnaire. The questionnaire solicits information about substance use, previous and current addiction treatment, and mental health. Additionally, participants may consent to annual database linkage capturing administrative health and correctional records for a five-year follow-up. Primary data collection is anticipated to begin in January 2020. A sub-sample of participants will also complete qualitative interviews soliciting clients' perspectives on implementation barriers which will inform the scale up of the CTT program.

**Results:** Study results will be used to develop and utilize data systems to monitor and evaluate health and social outcomes associated with the use of CTTs among individuals with an OUD upon release from a BC correctional centre. Results will be employed to inform responses regarding identified implementation barriers. Additionally, this research will gather new information to identify modifiable factors and actionable strategies within the correctional health system and aftercare environments, including the development of new interventions that can address system-level deficits that contribute to the risk of relapse, overdose and other negative outcomes. Moreover, it is expected that knowledge gained through these research activities will apprise the development of other evidence-based programs that can be utilized to further optimize the transition from correctional to community.

**Conclusion:** Incarcerated individuals with an OUD may be at increased risk for overdose and death following release. Implementation of CTTs may serve to reduce this risk. The proposed evaluation will generate critical knowledge regarding health outcomes associated with the use of CTTs and barriers associated with the program's implementation.

**Author Names:** Eisha Lehal, BC Centre on Substance Use; Jeffrey Morgan, British Columbia Centre on Substance Use; Cheyenne Johnson, BC Centre on Substance Use; Andrew MacFarlane, Provincial Health Services Authority; Nader Sharifi, Correctional Health Services, An Agency of Provincial Health Services Agency; Fariyah Ali, Canadian Research Initiative in Substance Misuse ; Seonaid Nolan, British Columbia Centre on Substance Use

# *Individual factors that determine seasonal influenza vaccination among the elderly: A systematic review and meta-analysis*

Dr. George Okoli, University of Manitoba

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Despite the availability of seasonal influenza vaccination (SIV) programs in various jurisdictions, uptake of vaccination remains suboptimal even among the elderly ( $\geq 65$  years old), an important subgroup for which SIV is highly recommended. We sought to summarize individual factors that determine uptake and adherence to SIV among the elderly.

**Approach:** A systematic review protocol was registered in the international prospective register of systematic reviews (PROSPERO) prior to the review (reg. no: CRD42018086803). We systematically searched for literature from 2000 to 2017 on clinical trials or observational studies of community-dwelling elderly individuals irrespective of health status. We followed the Cochrane systematic reviews of interventions guidelines. We gathered data on individual factors associated with SIV uptake (receipt of vaccine) and adherence (receipt of vaccine in more than one season). Where appropriate, we pooled the data using an inverse variance, random effects model.

**Results:** Out of a total of 9,990 retrieved citations, 24 cross-sectional studies met our eligibility criteria. Being older (pooled adjusted odds ratio 1.61, 95% confidence interval 1.45 – 1.79), married (1.22, 1.16 – 1.29), non-smoker (1.33, 1.15 – 1.54), of a high social class (1.20, 1.06 – 1.36), having a high household income (1.09, 1.03 – 1.16), and having a chronic illness (1.56, 1.44 – 1.69) were associated with increased SIV uptake. Influence of these factors varied across geographical regions. Being older (1.26, 1.11 – 1.44) was also associated with increased adherence to vaccination.

**Conclusion:** The evidence suggests that age, marital status, social class/household income, and smoking/health status determine uptake of SIV in the elderly, and that their effects may vary across regions. Adherence to SIV among the elderly appears to increase with age. More studies are needed for a stronger evidence base

**Author Names:** George Okoli, University of Manitoba; Florentin Racovitan, University of Manitoba; Christiaan Righolt, University of Manitoba; Christine Neilson, University of Manitoba; Ayman Chit, Sanofi Pasteur USA; Edward Thommes, Sanofi Pasteur USA; Ahmed Abou-Setta, University of Manitoba; Salaheddin Mahmud, University of Manitoba

# *Strengthening Governance Systems to Enhance Access to Antimalarial Medicines within Universal Health Coverage in a Low to Middle Income Country: A Case Study of Ghana*

Mr. Eustace Orleans-Lindsay, University of Toronto

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Malaria is one of the leading causes of morbidity and mortality in Ghana among children under 5 years, pregnant women and the poor. In Ghana, malaria accounts for about 40% of all health facility out-patient department visits and the death of 3 children a day. Access to quality assured antimalarial medicines is critical in efforts to eliminate malaria. Accordingly, Universal Health Coverage (UHC) with effective governance arrangements will be vital in attempts to eliminate malaria.

**Approach:** UHC is a key target of Sustainable Development Goal 3 (SDG3) and aims to achieve equity in health through access to safe, effective, quality and affordable essential medicines. Both state and non-state actors are involved in malaria control activities in Ghana. A qualitative study using an embedded case study design will be conducted to examine governance arrangements within and between state and non-state actors and how this might impact equitable access to quality assured antimalarial medicines in Ghana. Key policy documents will be reviewed, and health care stakeholders will be interviewed. Data generated will be analyzed using thematic analysis.

**Results:** International organizations and donor agencies such as the World Health Organization (WHO), the World Bank, the European Union (EU) and the Bill and Melinda Gates Foundation (BMGF) have given importance to the issue of governance for effective performance of institutions particularly for aid receiving countries. However, there is scant research on the nature of governance arrangements within and between state and non-state actors in malaria control efforts in Ghana; a gap in the literature which this study seeks to fill. Examining governance arrangements will enhance understanding of the successes and failures with respect to the sustainability of health sector policies aimed at the control of malaria and the internal institutional dynamics influencing policy outcomes.

**Conclusion:** Global progress towards the elimination of malaria has stalled over the last 3 years. This study will contribute knowledge to understand the stalled process, as well as add to the discourse on UHC, access to medicines, strengthening health systems and governance arrangements in malaria control and elimination efforts.

**Author Names:** Eustace Orleans-Lindsay, University of Toronto; jillian Kohler, University of Toronto; Erica Di Ruggiero, University of Toronto



# *Mental health in older adults and low satisfaction with primary care services: a study from the patient perspective on four dimensions of care.*

Dr. isabelle pitrou, universite de Sherbrooke

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Patient satisfaction and experiences with care are indicators of quality of care received integrated in the Canadian Institute for Health Information Health system Performance Framework. Few studies have examined the association between mental health and satisfaction with primary care services in community-dwelling older adults. The objective of this research was to examine the association between mental health indicators and low satisfaction in 4 dimensions of care among older adults visiting primary care services.

**Approach:** Data come from the Étude sur la Santé des Aînés Services where 1,624 older adults  $\geq 65$  years old were recruited between 2011-2013 in primary care services in Quebec. Patient satisfaction and experiences were assessed during face-to-face interviews with questions adapted from the Primary Care Assessment Survey. Questions included quality of physician interactions, adequacy of care, medical follow-up and physical environment. Self-reported mental health indicators included anxiety, depression, suicidal ideations, emotional distress and cognitive status. We conducted logistic regressions to examine the associations between mental health and low satisfaction in 4 dimensions of care: continuity, provider-patient interactions, adequacy and physical environment.

**Results:** Nearly half participants (48.5%) reported low satisfaction in at least one dimension of care examined. After adjusting for potential confounding factors significant in bivariate analyses, emotional distress (Kessler 10-item scale) was associated with low satisfaction for the dimensions pertaining to provider-patient interactions (OR=1.02; 95%CI=1.00-1.04) and adequacy of care (OR=1.04; 95%CI=1.01-1.06). The presence of an anxiety disorder was associated with low satisfaction in adequacy of care (OR=1.64; 95%CI=1.00-2.72). Cognitive functioning (MMSE score) was inversely associated with low satisfaction in continuity of care (OR=0.91; 95%CI=0.85-0.99), provider-patient interactions (OR=0.91; 95%CI=0.87-0.98) and adequacy of care (OR=0.91; 95%CI=0.84-0.98).

**Conclusion:** Emotional distress was a consistent factor associated with low satisfaction among different quality of care dimensions in primary health care. Results support the need for physicians to be attentive to their interactions and the care they provide to older patients with mental health and emotional difficulties.

**Author Names:** isabelle pitrou, universite de Sherbrooke; Helen-Maria Vasiliadis, Université de Sherbrooke; Djamal Berbiche, University of Sherbrooke

## *Opioid Prescribing in Canada: How Are Practices Changing?*

Mr. Jeff Proulx, CIHI

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**Category:** Poster

**Primary Theme:** Pharmaceutical Policy

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Pain is one the most common reasons Canadians seek health care. 1 in 5 adults in Canada experience chronic pain. Opioids, when prescribed and used appropriately, are effective in managing pain. However, inappropriate use of opioids can lead to serious harms such as addiction, poisoning and death. This report examines trends in opioid prescribing, focusing on people who are starting opioids as well as people who are prescribed opioids on a long-term basis.

**Approach:** This report presents trends in opioid prescribing in Ontario, Manitoba, Saskatchewan and B.C. from 2013 to 2018. Claims data from 2 sources are used in this report: CIHI's National Prescription Drug Utilization Information System (NPDUIS) and Ontario's Narcotics Monitoring System (NMS). Findings are presented in the context of initiatives and guidelines aimed at reducing opioid-related harms from prescription opioids.

**Results:** In 2018, almost 1 in 8 people (12.3%) were prescribed opioids, compared with 14.3% in 2013. Additionally, fewer people started on prescription opioids. The proportion of those starting on opioid therapy decreased from 9.5% to 8.1% over the study period.

Fewer people are being prescribed opioids on a long-term basis. Of people prescribed opioids, the proportion who were prescribed them on a long-term basis decreased from 19.8% in 2013 to 17.6% in 2018. An increasing number of people prescribed opioids on a long-term basis have tapered to a dose less than 90 MMEs, switched to non-opioid prescription drugs to manage pain or stopped prescription opioids altogether.

**Conclusion:** A variety of initiatives to reduce the harms associated with prescription opioids were implemented over the study period. These initiatives, along with an increased awareness of Canada's opioid crisis and increased publication of opioid-related harms, are likely influencing the decreasing trends in opioid prescribing.

**Author Names:** Jeff Proulx, CIHI

## *Health Literacy: Engaging the Community in Co-Creating a Meaningful Program*

Dr. Vivian Ramsden, University of Saskatchewan

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** Health literacy has been recognized as an important determinant of health. Individuals with low health literacy face significant barriers in self-managing chronic diseases and navigating the health care system. Thus, involvement of individuals/patients and/or communities with low literacy is crucial for the co-creating of meaningful programs. The objective was to co-create innovative solutions with individuals/patients with low health literacy.

**Approach:** The approach utilized was transformative action research which is fully participatory. Thus, relationships with the individuals/patients are critical before engaging with them on or about research questions.

Ten individuals/patients from an east-side neighbourhood with a number of older adults and were interested in improving visits with their health care provider and known to JCW were invited to review and reflect upon the questions asked by health care providers (Patient's Medical Home, College of Family Physicians of Canada).

An Exemption was received from the University of Saskatchewan's Behavioural Research Ethics Board.

**Results:** Six individuals/patients (three men; three women) completed all processes.

The questions that evolved from engaging with individual/patients in exploring what would assist them with improving their visits with a health care provider were used to co-develop a wallet card (Wallet Card – Page 1 - shown on poster).

Subsequently, individuals/patients were invited to utilize the wallet-card in preparing for their next visit. Following this, individuals/patients were debriefed about what worked: individuals/patients felt much better prepared for the visit with their health care provider; and, what could be improved were the questions which evolved a second time (Wallet Card - Page 2 - shown on poster).

The wallet card is going to be used at and with the Sturgeon Lake Health Centre to evaluate transferability.

**Conclusion:** Co-creating programs with individuals/patients who have low health literacy has the potential to enhance patient visits and improve physician/nurse practitioner communication while at the same time assisting individuals/patients with navigating the health care system.

**Author Names:** Vivian Ramsden, University of Saskatchewan; Christine Loignon, Université de Sherbrooke; Martin Fortin, Université de Sherbrooke; Jackie Crowe-Weisgerber, Department of Academic Family Medicine, University of Saskatchewan; Sophie Dupéré, Faculté des sciences infirmière, Université Laval

## *Rural Children Admitted to Urban Hospitals: Family Perceptions of Tertiary Hospitalization*

Ms. Alam Randhawa, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** There is a historical practice of concentrating resources in urban tertiary hospitals. This has led to a resource gap between rural and urban sites. With little sub-speciality care and no dedicated rural centres for children, rural paediatric families travel long distances to seek care. The objectives of this study were to gain an understanding of the quality of care perceived by rural paediatric families and to identify patient recommended solutions to rural health inequity.

**Approach:** This study focused on patient centred care and included patient centred research. In order to make program or policy changes, especially in a direct clinical setting it is important to first evaluate the current state of the issue and to evaluate this by directly asking those most affected by a health inequity. The study was unique as interviews on patient family experience was conducted during the actual admission of the child to the urban centre as opposed to families reflecting back on their experience. Families were able to directly provide solutions from their point of view.

**Results:** Rural paediatric families admitted that health inequity exists between themselves and urban counterparts. Many families preferred to seek care at urban centres and outweighed the burden or travel with safety of care received at urban centres, reporting lower stress levels and greater comfort upon reaching an urban hospital. The families identified that in comparison to urban tertiary hospitals, rural hospitals had greater wait times, fewer staff, less privacy, fewer resources/equipment, poorer infrastructure and less sub-speciality and child-specific expertise. Importantly, many rural families reported a lack of confidence in their rural health care teams to provide safe and knowledgeable care for their children. These results indicate that rural hospitals may be suffering from resource neglect that is affecting the quality of care they can provide.

**Conclusion:** A large gap in perceived quality of care exists between rural and urban hospitals with tertiary sites exhibiting greater quality, knowledge and safety of care. Rural patient recommended solutions included having greater home services to support children once they were discharged from tertiary sites.

**Author Names:** Alam Randhawa, University of Calgary ; Sumedh Bele, University of Calgary; J.A Michelle Bailey , University of Calgary

*One Size does not Fit All: Developing a process to facilitate patient-oriented community-level innovation in primary care*  
Mr. Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** There is a recognized need to move beyond a “one-size-fits-all” approach to primary care (PC) reform towards one that is context specific, patient-oriented, and quality improvement (QI) focussed. Our objective is to develop and document a feasible and transferable process to design, evaluate and spread patient-oriented, needs-based innovation and quality improvement initiatives in a way that that is context-specific, meaningful to patients and providers, and valued and supported by policymakers.

**Approach:** We will engage patients, providers and policymakers as active partners in the development, evaluation and documentation of patient-oriented quality improvement (QI) innovations at the practice level. We are proposing a six stage, iterative process that we are calling the “Innovation Road Map.” The engagement and collaboration stages will use realist methods to focus on understanding what works, for whom, under what circumstances, and how. The development, implementation and evaluation stages will be guided by system-based planning perspectives and the Consolidated Framework for Implementation Research (CFIR), a well-established theoretical framework for guiding and evaluating implementation processes.

**Results:** By encouraging collaboration between primary care providers, patients, community members, and policymakers, this project will be the next step in the ongoing development of a learning PC system. This system will both support and incentivize patient-oriented innovation and continual quality improvement. We will balance the needs of patients, providers and community members, with those of policymakers to develop processes that place patient needs and priorities firmly at the core of PC QI and innovation, while taking the needs of other stakeholders into account. Our work will increase both patient and provider satisfaction and develop relevant solutions to local service gaps, while also providing the structure and accountability necessary to facilitate the support of local and provincial government agencies.

**Conclusion:** In order to address the challenges of meaningfully incorporating the needs and values of patients into the fabric of PC, patients, citizens and providers must be given the opportunity to play a much larger role in the development of innovative QI solutions that address gaps in service at the practice-level.

**Author Names:** Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology; Kylie Peacock, Dalhousie University; George Kephart, Community Health and Epidemiology, Dalhousie University; Frederick Burge, Dalhousie Family Medicine; Ruth Martin-Misener, Dalhousie University; Tara Sampalli, Research, Innovation & Discovery, Nova Scotia Health Authority

*A patient led, peer-to-peer qualitative study on the psychosocial relationship between patients with IBD and food*  
Ms. Jenna Rines, PaCER / University of Calgary

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**Category:** Poster

**Primary Theme:** Patient and Public Engagement

**Secondary Theme:** Chronic Disease Management

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Inflammatory Bowel Diseases (IBD) are chronic gastrointestinal illnesses thought to be partly influenced by diet. Patients report that IBD negatively affects their enjoyment of food, contributing to feelings of isolation during social and cultural gatherings. Such experiences may promote psychosocial challenges, an aspect of IBD often understudied in clinical and research settings. This study explores the experiences of young adults with IBD and how their relationship with food may be impacted.

**Approach:** We used the PaCER (Patient and Community Engagement Research) framework to capture the authentic patient voice by purposively sampling and involving patients in a stepwise iterative process. We conducted one SET focus group (n=6) to identify issues of utmost importance to our patient consultants; one COLLECT focus group (n=4) and four narrative interviews to gather data; and one REFLECT focus group (n=5) to consolidate our findings. Our experience as patients provided an environment where participants were comfortable uncovering the depth of their experiences, revealing robust data. Drawing from grounded theory, we analyzed data using inductive coding to identify emerging categories.

**Results:** Emerging categories were: Experimenting With Food; Evolution Over Time; Diet Changes Are Emotional; Role of Stigma. Participants identified "Experimenting with Food" as most important as it normalized diet as an individualized experience involving repeated testing for compatible food. They emphasized the importance of maintaining a sense of hope throughout and the vital process of gaining knowledge/experience over time. Participant recommendations included: 1) Creating a centralized resource and referral website with facts and contact information of specialized clinicians; 2) Creating a working group of clinicians and patients to determine clinical guidelines that help patients experiment with diet; and 3) Recording and sharing patient stories about their experiences with food more widely to encourage increased awareness of issues and messages of hope amongst patients and IBD clinicians.

**Conclusion:** Participants experienced numerous psychosocial challenges as they strived to manage their diet, noting gaps in practical clinical knowledge and structured supports available from IBD clinicians. We recommend further patient-engaged research in this area to build a body of practical knowledge that helps IBD patients maintain hope while managing their illness.

**Author Names:** Jenna Rines, PaCER / University of Calgary; Sunny Loo, PaCER / University of Calgary; Kim Daley, PaCER / University of Calgary; Deirdre Walsh, PaCER / University of Calgary; Kwestan Safari, PaCER / University of Calgary

## *Does Adjusted Length of Stay and Incidence of Unplanned Repeat Hospitalizations Reflect Hospital or Community? Implications for Performance Measurement.*

Ms. Alysia Robinson, Dalhousie University, Department of Community Health and Epidemiology

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Adjusted length of stay (ALOS) and unplanned repeat hospitalizations (URH) are widely used to assess hospital efficiency. Research has shown that community resources and services also affect discharge decisions and incidence of URH. Community of residence may thus also systematically affect these outcomes, and indicate system efficiency. Estimating the independent effects of both community of residence and hospital on ALOS and URH may therefore be useful. We aim to determine whether this is feasible.

**Approach:** This study employs hospital discharge data from fiscal years 2010-2014. Our outcomes are ALOS and URH, adjusted for age-sex groups, end-of-life, disease types and multimorbidity. Each hospitalization event is attributed to one of 77 communities of discharge and one of 32 hospitals. Comparing regression models with separate and crossed random effects for hospital and community, we test whether hospitals and communities independently affect outcomes, and if not, how their effects interact. We examine patterns in our data through plots and maps, allowing us to describe how community effects differ by hospital (and vice-versa).

**Results:** Analysis is complete for the ALOS outcome and analysis is underway for URH. A statistically significant likelihood ratio test demonstrated that communities and hospitals interact in affecting ALOS ( $p < 0.001$ ). Further exploring this interaction using plots and maps, we found that community effects were not consistent across hospitals, and vice-versa. For example, within one community, there may be a discharging hospital associated with a longer, and another with a shorter ALOS than the average. Furthermore, within hospitals we noted that communities with longer ALOS clustered around the location of the hospital. Due to the significant and complex interactions between community and hospital, we were unable to differentiate their effects on ALOS. We expect to find similar results with the URH outcome.

**Conclusion:** There are complex interactions between community and hospital effects on ALOS and, we expect, URH. Thus, using adjusted outcomes as a measure of either hospital or community efficiency may be misleading. Future research on how hospitals and communities interact to affect ALOS and URH may provide important policy insights.

**Author Names:** Alysia Robinson, Dalhousie University, Department of Community Health and Epidemiology; Michael Reid, Dalhousie University, Dept. of Community Health and Epidemiology; George Kephart, Community Health and Epidemiology, Dalhousie University; Pantelis Andreou, Dalhousie University, Department of Community Health and Epidemiology

## *Social media and mobile health technology for cancer screening: A systematic review and meta-analysis*

Ms. Arlinda Ruco, University of Toronto and St. Michael's Hospital

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**Category:** Poster

**Primary Theme:** Cancer

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Cancer is one of leading causes of death globally and many jurisdictions have developed population-based cancer screening programs to reduce the public health burden of the disease. However, screening participation remains suboptimal. Social media and mobile health (mHealth) technologies are increasingly being used for health promotion and behaviour change. This review explores the effectiveness of social media and mHealth interventions on cancer screening participation and intention (inclusive of breast, cervical, colorectal, prostate and lung cancer).

**Approach:** We searched Medline, EMBASE, PsycINFO, Scopus, CINAHL, the Cochrane Register of Controlled Trials and Communication and Mass Media Complete from 2000 onwards to identify randomized controlled trials or quasi-experimental studies conducted in adults that report on the effectiveness of a social media or mHealth intervention on screening participation (primary outcome) or intention. Two independent reviewers performed screening of titles, abstract and full-text articles and will complete risk of bias assessments for the included studies. Data extracted will include characteristics of the study, participants, interventions and outcomes.

**Results:** The search strategy identified 15,552 records of which 2,291 were selected for the abstract screen phase. The full-text screening is anticipated to begin shortly and will be completed by February 2020. We will categorize interventions based on their nature including 1) reminders; 2) education/awareness; 3) navigation; 4) peer support; 5) decision aids; and 6) mixed/other. We will report on the absolute and relative differences in screening and intention attributable to social media and mHealth interventions. If there are 3 or more studies of the same type of intervention, we will meta-analyze the data to determine the average effect sizes. We will pool odds ratios in a random-effects model to generate an overall summary effect. We will graphically display our results using forest plots.

**Conclusion:** Our review will provide evidence for the effectiveness of social media and mHealth interventions for cancer screening participation and intention and will inform future interventions to increase participation.

**Author Names:** Arlinda Ruco, University of Toronto and St. Michael's Hospital; Fahima Dossa, Department of Surgery, University of Toronto; Jill Tinmouth, Cancer Care Ontario; Diego Llovet, Cancer Care Ontario; Teruko Kishibe, St. Michael's Hospital; Nancy Baxter, University of Toronto



# *The Influence of Clinic Funding on the Integration of Registered Nurses in Primary Care: A Qualitative Study from Newfoundland and Labrador*

Ms. Dana Ryan, Memorial University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Registered Nurses (RNs) who work within primary care settings provide a broad range of health services. In Newfoundland and Labrador (NL), the integration of RNs into the primary care setting has progressed at a slower pace than in other jurisdictions across Canada. This study aims to explore the roles of RNs in primary care settings funded by fee-for-service (FFS) and alternate payment plans (APP) in an attempt to understand the influence of funding arrangements on roles/activities.

**Approach:** This study employed a qualitative design. Eligible participants were questioned through semi-structured telephone interviews and asked about their experiences, current roles and activities, and barriers/facilitators to maximizing their scope of practice within the primary care setting. The interviews were recorded and transcribed verbatim and a content analysis approach was used to identify any recurring patterns or themes.

**Results:** In both funding arrangements, RNs work in partnership with other healthcare providers and function as generalists who provide a broad range of services. In FFS practices, RNs work in tandem with physicians and focus on one-on-one patient care in primarily office-based settings, whereas RNs in APP practices work more independently, in a wider range of settings, and with a more balanced emphasis on both individual and group-based encounters. RN roles in APP practices are determined by nursing scope of practice and community needs, while their roles are more restricted in FFS practices due to physician billing requirements.

**Conclusion:** These findings highlight how funding arrangements can be used to optimize RNs in primary care and promote different types of team-based care within these settings. Understanding the relationship between funding and how RNs function within a team will inform the future integration/optimization of RNs in primary care models across Canada.

**Author Names:** Dana Ryan, Memorial University

## *Advancing Primary Health Care for Indigenous Peoples in Alberta*

Ms. Anika Sehgal, University of Calgary

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**Category:** Poster

**Primary Theme:** Indigenous Health

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Indigenous people continue to experience greater burdens of disease and health disparities compared to non-Indigenous people. Current systems of primary health care (PHC) are under-resourced and often ill-equipped to address the root causes of health disparities experienced by Indigenous peoples. The TRC Calls to Action envision how health equity might be achieved through transforming health services to be better equipped to address the social and political contexts driving health inequities.

**Approach:** To address this within the province of Alberta, the Indigenous Primary Health Care and Policy Research (IPH CPR) Network facilitated two formal roundtable meetings in Edmonton and Calgary, bringing together over 65 stakeholders to provide direction for PHC innovation. The objectives were to explore and discuss opportunities for PHC innovation, and PHC research, based in themes arising from TRC health legacy Calls to Action. A multi-modal approach was used where roundtable attendees generated and prioritized directions for the IPH CPR Network.

**Results:** Key themes that emerged from the roundtable dialogues included Indigenous Ways of Knowing, Equity, Education, Evaluation, and Engagement. The knowledge synthesized from this research may help to critically explore policy alternatives that inform the delivery of PHC for Indigenous peoples in Alberta.

**Conclusion:** This research demonstrates how an Indigenous-led team is working to decolonize current systems of healthcare through engagement and collaboration. The findings of this study have the capacity to drive innovation and change, and they exemplify how Indigenous knowledge and Ways of Knowing can shape betterment in healthcare services.

**Author Names:** Anika Sehgal, University of Calgary

## *A new perspective on chronic diseases in Canada: the combined effects of perceived stress and socioeconomic status*

Ms. Huda Shah, University of Waterloo

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**Category:** Poster

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Equity and Vulnerable Populations

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Data Mining/Big Data Analytics

**Background and Objectives:** Approximately 80% of Canadians over the age of 20 are at risk of developing a chronic disease (CD). The burden of CDs is not distributed equally with those from lower socioeconomic status (SES) backgrounds having higher CD outcomes. Although the role of stress has often been implicated in the development CDs, research in Canada fails to understand the cumulative effects of multiple non-traditional disease risk factors (stress and SES) on CD outcomes.

**Approach:** Multivariate logistic regression analyses were conducted using a weighted sample of 78,023 respondents from the Canadian Community Health Survey (2015-2016). Models controlled for age, sex, race or cultural background, body mass index (BMI), and traditional disease risk factors (smoking status, alcohol intake, fruit and vegetable intake, and physical activity) to understand the true association between stress and SES on CD outcomes. The combined effects of both predictor variables were assessed using multiplicative and additive interaction analyses. Significance level was determined at an alpha of 0.05.

**Results:** Self-perceived life stress and SES remained significantly associated to self-reported heart disease and diabetes even after adjusting for disease risk factors. A significant interaction between high life stress and low household income resulted in almost doubling the odds of reporting diabetes (OR=1.89, p=0.03), compared to the product of the individual factors alone. Results support that non-traditional disease risk factors might have cumulative effects on CD outcomes, even when the traditional disease risk factors are controlled.

**Conclusion:** Our results corroborate other findings that stress and SES might have independent associations to CD outcomes, even in the absence of traditional disease risk factors. This study shows the cumulative effects of non-traditional risk factors and why we might need to change our approach to combat the incidence of CDs.

**Author Names:** Huda Shah, University of Waterloo; Martin Cooke, University of Waterloo

## *Respecting a patient's experience: Implementing Trauma Informed Care in a cardiac department*

Mr. Deepanshu Sharma, University of Toronto

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Mental Health and Addictions

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Trauma Informed Care (TIC) allows healthcare providers to respect the previous physical and psychological trauma that puts vulnerable patients at risk for experiencing distress during examinations. Currently TIC has been validated and implemented in mental health, women's health, and Emergency department settings. Therefore, the Cardiac Health program at Trillium Health Partners (THP) launched a Quality Improvement initiative to train staff on the use of TIC approaches during sensitive exams.

**Approach:** The present quality improvement initiative evaluated the comfort of health care providers after a TIC-focused seminar. All Cardiac Diagnostic Services staff, at each of the three hospital sites of THP, attended a 4-hour workshop focused on TIC approaches. The workshop focused on preparing patients for cardiac diagnostic tests, and patient consent and withdrawal of consent during exams. Pre- and Post-surveys were given to all staff after the workshop. In addition, all staff were surveyed 1-month and 3-months post-workshop, to assess their understanding of a TIC approach, and how it has been applied in their work.

**Results:** Seventy-five staff members were surveyed before and immediately after the workshop. The proportion of respondents who reported being either 'fairly' or 'very confident' when performing examinations with trauma survivors rose from 41% to 89%. Similarly, pre- and post-surveys found an increase from 50% to 83% of the staff responding that they were 'fairly' or 'very' confident in supporting patients who react strongly during a diagnostic test. In the 1-month and 3-month surveys 89% and 80% were 'confident' or 'very confident' in performing diagnostic tests with patients who may be trauma survivors, respectively. Similarly, in the 1- month and 3-month post-workshop surveys 82% and 72% were 'confident' or 'very confident' in supporting patients who are triggered during a diagnostic test.

**Conclusion:** The present work illustrated a positive and lasting improvement in the confidence and comfort of health care providers in providing TIC in a novel field. This can further help healthcare staff with adapting to current societal expectations and providing equitable care to a more vulnerable population.

**Author Names:** Deepanshu Sharma, University of Toronto; Matthew Tersigni, University of Toronto

## *Social Housing for Seniors: An Environmental Scan*

Dr. Christine Sheppard, St. John's Rehab Research Program, Sunnybrook Research Institute

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** Yes

**Importance and Relevance of the Topic:**

**Methods:** Policy Case Study

**Background and Objectives:** The City of Toronto adopted a recommendation to create a standalone seniors housing corporation to focus on the specific needs of low-income seniors living in social housing. A key focus of this new corporation will be providing access to housing, health and community support services needed to optimize senior tenants' ability to maintain their tenancy and age in place with dignity and in comfort.

**Approach:** We conducted an environmental scan of service delivery models that connect low-income seniors living in social housing with health and support services. Desktop research was undertaken in order to identify housing programs for low income seniors. For each model, key details were extracted including housing type, services offered, provider information, rent structure and funding sources. Five models were selected for an in-depth review through key informant interviews.

**Results:** The environmental scan identified 34 examples of housing programs run by public, private and non-profit agencies across Canada, the United States and Europe that integrated health and supportive services into seniors social housing. Successful housing models were created by understanding the needs of senior tenants and developing collaborative partnerships with health and social service providers to create flexible place-based programs. A common challenge across jurisdictions related to privacy legislation that made it difficult to share health and tenancy data with program partners. The presence of on-site staff that focused on building trust and community among tenants was considered key for identifying tenants that needed additional supports in order to age in place.

**Conclusion:** These insights offer important considerations for the City of Toronto and their partners into how integrated housing and supportive service models can promote housing stability and support better physical, mental and social wellbeing among seniors residing in social housing communities.

**Author Names:** Christine Sheppard, St. John's Rehab Research Program, Sunnybrook Research Institute; Glenn Miller, Canadian Urban Institute; Ariana Holt, Canadian Urban Institute; Andrea Austen, City of Toronto; Sander Hitzig, St. John's Rehab, Sunnybrook Research Institute

## *Econometric Analysis of Interprovincial Physician Migration*

Mr. Michael Sherar, University of Toronto

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**Category:** Poster

**Primary Theme:** Health Human Resources

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Statistics/ Econometrics

**Background and Objectives:** Physician supply is of perennial concern in Canada; each province and territory operates their own healthcare system. The oil boom at the beginning of the 21st century gave provinces that were traditionally net donors of Canadian physicians and reliant on international medical graduates (IMGs) the resources to begin raising their fees to incent return migration. This study was to examine the determinants of interprovincial migration in a modern, generalizable context.

**Approach:** There have been analyses to derive the determinants of interprovincial migration however, these studies lack in modern generalizability by the age of their data, limit of their scope, and incompleteness of their variable set. Demographic administration data was obtained on every physician in practice in Canada over the 2000-2015 time period and combined with information about income, healthcare system measures, and jurisdictional characteristics. A multivariate logistic regression was run on this data set under multiple specifications.

**Results:** Preliminary results are as anticipated, showing positive and significant correlation with all measures of income, confirming the literature's findings for economically-motivated migration among physicians for the 21st century. There was significance (again consistent with the existing literature) among the other variables (such as personal preferences for climate and larger population centres) that were consistent with the literature and predictions. Further examination of differences between specialties and the differences between specialties and the total physician population will be examined.

**Conclusion:** Although many of the determinants of physician migration are exogenous to the influence of policy-makers, this work could be leveraged to incentivize physicians to migrate in a socially optimal way. For example, to induce movement not just to underserved provinces, but underserved areas (e.g. rural and remote) within.

**Author Names:** Michael Sherar, University of Toronto

# *Using the Consolidated Framework for Implementation Research to Evaluate the Implementation of a Chronic Obstructive Pulmonary Disease Management Program: A Case Study*

Dr. Shannon Sibbald, Western University

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**Category:** Poster

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Chronic obstructive pulmonary disease (COPD) is a complex chronic disease that requires comprehensive approaches to manage. Interprofessional teams provide care that meets the needs of patients. A COPD management interprofessional model of care was implemented into a healthcare team in Ontario. Due to success, it is now being spread to other teams. The objective of this research is to determine factors that support or hinder implementation of the model and explore peer-to-peer implementation.

**Approach:** Constructivist case-study, mixed methods approach was used. Qualitative: focus groups, interviews, document analysis, field notes, and observation of an interprofessional primary healthcare team implementing a new COPD management model in Ontario. Quantitative: collaborative practice assessment tool survey to assess team collaboration. Inclusion Criteria: Providers working on the team providing care with the implemented program and patients who use the program. Deductive coding was performed using constructs of the consolidated framework for implementation research (CFIR). Outcome measures are: qualitative, factors that affect the implementation of this model, practitioner and patient perspectives and quantitative, effectiveness of team collaboration.

**Results:** Patients reported experiences in the program as positive. Intervention Characteristics: implementation was supported by packaging the program in an enticing way, allowing for effective engagement of the providers at the site and efficient implementation. Characteristics of Individuals: providers believe the program is an efficient model for providing COPD specific care and offers more support to patients via specific COPD care. Outer Setting: external implementation support of the program along with new reporting technology provided was helpful. Inner Setting: the role of the respiratory therapist was reported as crucial to implementation. Peer-led implementation reported to help communication between providers. Process: providers reported patients played little role in the implementation process.

**Conclusion:** This study has implications for practice including: determining factors that will help achieve sustainability and program migration inter-provincially and informing the spread and implementation of other similar models of healthcare. It will provide a clearer understanding of the various mediating factors related to implementation and the function of peer-to-peer implementation.

**Author Names:** Shannon Sibbald, Western University; Stefan Paciocco, Western University

# *Political Mechanisms Conducive to the Sustained Implementation of Tools to Achieve Health in All Policies: A Cross-Jurisdiction Exploration*

Ms. Stephanie Simpson, Western University

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Knowledge Translation & Exchange (includes KTE methods)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Population health is shaped by the public policies of non-health government sectors more so than health departments or the traditional healthcare realm. At least 16 countries have adopted a Health in All Policies (HiAP) strategy to mitigate negative impacts stemming from public policies. The present study seeks to identify the political mechanisms that have consistently permitted sub-national jurisdictions to sustainably implement tools to achieve HiAP – namely, Health Impact Assessment and Health Lens Analysis.

**Approach:** As two jurisdictions in which HiAP has been implemented for more than a decade, the present study has defined South Australia and Québec as cases. A framework analysis of grey and academic literature is currently being conducted to explore the political mechanisms understood to have facilitated the adoption and sustained implementation of Health Lens Analysis in South Australia and Health Impact Assessment in Québec. This process has been guided by a theoretically informed glossary detailing nine mechanisms demonstrated to influence HiAP uptake, including: political agenda, political elites, policy elites, institutional power, ideology, jurisdiction, resource allocation, political culture, and political support.

**Results:** It is anticipated that emergent themes will serve to refine the a priori glossary such that the outputs of this study will include two jurisdiction-specific frameworks for HiAP implementation. These frameworks will then be juxtaposed to identify any consistent or shared political mechanisms demonstrated to facilitate adoption and sustained implementation within both South Australia and Québec. These mechanisms will subsequently comprise a final high-order framework that may be useful to policy actors seeking to implement tools to achieve HiAP within sub-national government contexts, such as those of Canadian provinces. For example, the framework may highlight facilitative mechanisms already in place within a given jurisdiction and/or political environment, as well as strategies which may feasibly be worked toward.

**Conclusion:** Government policies have significant potential to negatively impact population health. In Canada, Québec remains the only jurisdiction in which impact assessment is mandated during provincial-level policy development. Identifying the political mechanisms for the sustained implementation of tools to achieve HiAP is a critical step toward upstream health promotion and protection.

**Author Names:** Stephanie Simpson, Western University



## *Improving access to primary healthcare for vulnerable populations: a typology of components to design organisational innovations*

Ms. Mélanie Ann Smithman, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Knowledge Synthesis

**Background and Objectives:** Inequities in access to primary healthcare negatively affect vulnerable populations including indigenous communities, minorities, refugees and immigrants, those experiencing homelessness, those living in poverty, those suffering from mental illness, etc. Addressing these inequities is challenging for health organisations and requires pro-vulnerable innovations that are tailored to meet vulnerable populations' needs. Yet, little work has been done to explore the range of potential pro-vulnerable innovations that exist to improve access to primary healthcare.

**Approach:** We developed a typology of pro-vulnerable organizational innovation components aiming to improve access to primary healthcare. Relevant innovations were identified through 1) a scoping review of peer-reviewed academic literature (2000-2014, 90 studies included), and 2) an environmental scan with a social media sampling strategy (2014, n=744 responses). We conducted inductive analysis of innovation components – common “building blocs” found across different complex innovations – until we reached saturation. Components were mapped to the Patient-Centered Accessibility Framework (Levesque et al., 2013). The typology was field tested to design and pilot pro-vulnerable primary healthcare innovations with multiple stakeholders from 2014 to 2018.

**Results:** We developed a typology comprised of 18 components of organisation innovations to improve access to primary healthcare for vulnerable populations (e.g. navigation and information, health services brokerage, proactive identification of need, one stop shop, culturally adapted services, community health worker, defraying costs to patients). When mapping to the Accessibility Framework, we found that components were most frequently related to: 1) approachability – addressing vulnerable populations' limited ability to perceive need for services, and 2) availability and accommodation – addressing vulnerable populations' limited ability to reach services. Studies and environmental scan entries generally described complex innovations that were composed of multiple components combined in different ways, with no immediate patterns emerging.

**Conclusion:** This typology offers a new categorization of primary healthcare delivery arrangements that, as opposed to previous classifications, are specifically tailored to the needs of vulnerable populations. It therefore offers a menu of potential components that can help inform communities, providers, researchers, decision-makers and policy-makers in the design of pro-vulnerable innovations.

**Author Names:** Mélanie Ann Smithman, Université de Sherbrooke; Jeannie Haggerty, McGill University; Emilie Dionne, McGill University // St. Mary's Research Centre; Sarah Descôteaux, ; Mylaine Breton, Université de Sherbrooke

## *How to improve Quebec's centralized waiting lists for unattached patients? Recommendations from a deliberative dialogue*

Ms. Mélanie Ann Smithman, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Participatory or Action Research Methods

**Background and Objectives:** In Quebec, 1 in 5 patients is unattached – without a regular provider for their primary care. The Guichet d'accès à un médecin de famille is a centralized waiting list intended to help attach patients to providers. However, it faces challenges including: difficulty attaching complex patients, confusion and frustration among patients, suboptimal processes, lack of attachment capacity and insufficient monitoring data. The aim is to share stakeholders' recommendations to improve Quebec's centralized waiting list.

**Approach:** A one-day deliberative dialogue was hosted by the Ministry of Health and Social Services in November 2019 with over 200 centralized waiting list health system stakeholders from across Quebec (family physicians, nurses, clerks, decision-makers, policymakers). The research team designed and facilitated deliberative processes (e.g. carousel brainstorming, 1-2-4-all) to elicit stakeholders' recommendations for improving the centralized waiting list. Data was collected by designated notetakers, instructed to record all ideas and indicate salience and repetition of ideas. In December, a working group of policymakers and researchers collaboratively analyzed the data to select and group actionable recommendations.

**Results:** Over 70 recommendations for implementation strategies were generated, related to: 1) improving patient communication (e.g. clear instructions in registration email, plain language reviewed by patient-partners), 2) streamlining physician retirement and arrival (e.g. guide for retirement planning, improved panel transfer processes, retiree-new physician mentoring), 3) improving workflows (e.g. using online booking system to track patients' first visit with provider, champions in each clinic, additional software functionalities), 4) increasing attachment capacity (e.g. guidelines to estimate capacity, support clinics/physicians to reach capacity, increased scope of practice for nurses), 5) proactively supporting patients with complex needs (e.g. referring to chronic disease or mental health services while on list), 6) more informative monitoring (e.g. condition-specific data, patient flow), 7) fostering provincial engagement (e.g. community of practice, best practices).

**Conclusion:** These stakeholder-informed recommendations provide promising avenues to address the centralized waiting list's current challenges. Centralized waiting lists for unattached patients exist in seven provinces and face similar challenges across Canada. These results may therefore be useful for stakeholders across the country seeking to improve attachment and access to primary care.

**Author Names:** Mélanie Ann Smithman, Université de Sherbrooke; Mylaine Breton, Université de Sherbrooke; Jeannie Haggerty, McGill University; Christine Beaulieu, St.Mary's Research Centre - McGill University; Sabina Abou Malham, Université de Sherbrooke; Véronique Bernard-Laliberté, Ministère de la santé et des services sociaux; Aurore Deligne, Ministère de la santé et des services sociaux; Caroline Lamontagne, Ministère de la santé et des services sociaux

## *Sex differences in the impact of a provincial primary care policy intervention for persons with dementia*

Ms. Nadia Sourial, Department of Family Medicine, McGill University

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**Category:** Poster

**Primary Theme:** Equity and Vulnerable Populations

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** A lack of consideration of sex and gender-specific issues in the development and implementation of health interventions and policies may contribute to unintended inequities in care. The Quebec Alzheimer Plan (QAP) is a provincial dementia strategy implemented since 2014 aimed at improving detection, diagnosis and follow-up of persons with dementia in primary care. This study examined the moderating effect of sex on the impact of the QAP on the quality of dementia primary care.

**Approach:** A secondary analysis of a chart review in men and women 65+ with dementia before and after implementation of the QAP was conducted in 13 participating primary care practices. A quality of care score composed of 10 validated indicators was measured for each patient. A linear mixed effect model including the interaction between sex and time (before or after QAP) on quality of care was used to measure the moderating effect of sex on the impact of the QAP.

**Results:** A total of 945 charts of patients with dementia (359 men; 586 women) pre and post-QAP were reviewed. A statistically significant interaction effect was demonstrated between men and women, before and after the QAP. Following the QAP, the quality of care score in men increased by an average of 5.3% more than in women (95% CI: 0.29 – 10.38). In men, a larger improvement was observed in 6 out of 10 indicators: functional assessment, Alzheimer society referrals, driving assessment, Alzheimer medication management and absence of anticholinergic medication. Women improved to a greater degree than men in evaluation of caregiver needs, home care referrals, weight and behavioral and psychological symptoms assessment.

**Conclusion:** This study highlights the need to consider sex and gender specific challenges in developing and implementing dementia policies. Understanding these challenges is key to ensuring equitable delivery of dementia care.

**Author Names:** Nadia Sourial, Department of Family Medicine, McGill University; Genevieve Arsenault-Lapierre, Family Medicine Department of McGill University; Eva Margo-Dermer, Université McGill / Département de médecine de famille; Isabelle Vedel, McGill University; Mary Henein, Lady Davis Institute

## *Proxy reports of pediatric health predict emergency department visits and readmissions*

Mr. Brian Steele, University of Calgary

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health Informatics

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Many indicators have been developed to predict post-discharge events, including re-admission and emergency department visits; predictors generally include medical history and healthcare utilization. However, they often fail to include patient reports of health. The objectives of this study were to a) measure how well caregiver measures of child health correlate with clinical measures, and b) determine whether these measures improve predictions of readmissions compared to more traditional indicators.

**Approach:** Caregivers (primarily parents) completed the Child-Hospital Consumer Assessment of Healthcare Providers and Systems (Child-HCAHPS) telephone survey within 6 weeks of discharge. The surveys were then linked with electronic medical records. Using Spearman's correlation, we examined if caregivers' rating of the child's overall health were correlated with clinical predictors of readmission: resource intensity weight (RIW), length of stay (hospital), length of stay (ICU), and number of hospital admissions in the previous year. Linear regression was then performed to investigate whether these proxy reports of children's health explained variance in emergency department visits and readmissions within 90 days, controlling for other variables.

**Results:** From October 2015 to March 2019, 7,951 surveys were completed. Caregiver reports of child's health status were weakly correlated with length of stay ( $r = .0403$ ,  $p < .0006$ ) and RIW ( $r = .0605$ ,  $p < .0001$ ), and moderately correlated with number of hospital admissions in the previous year ( $r = .3775$ ,  $p < .0001$ ). After controlling for demographic characteristics and clinical predictors of readmission, caregiver reports of the child's health status remained a statistically significant predictor in the linear regression models.

**Conclusion:** Caregiver reports of their children's health improve predictions of emergency department visits and readmissions within 90 days of discharge. Even though these patient-reported experiences are by proxy, they still provide utility in predicting clinical outcomes. Future work will examine other respondent characteristics that moderate the effectiveness of this predictive factor.

**Author Names:** Brian Steele, University of Calgary; Paul Fairie, University of Calgary; Kyle Kemp, University of Calgary; María José Santana, Cumming School of Medicine, university of Calgary

*What is important for successful care transitions? To find out, we talked to older patients, family caregivers, and health care providers*

Dr. Paul Stolee, University of Waterloo

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Patient and Public Engagement

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Background and Objectives: Transitions between care settings present risks for care continuity and patient safety, especially for older adults with complex health conditions. Many existing transition interventions provide support for individual patients, but do not address underlying system challenges. We spoke with older patients, family caregivers and health care providers to develop a framework for system-level enhancements to care transitions.

**Approach:** Approach: We conducted an ethnographic study – the “InfoRehab” project - of care transitions for older persons who had experienced a hip fracture. We interviewed 23 patients, 19 family caregivers, and 92 health care providers. Interviews were conducted at each transition point (1-4 transitions/patient) along the care continuum, at three Canadian sites (large urban, mid-size urban, rural). This research was reported in 12 peer-reviewed papers. We then conducted a framework analysis of these papers following steps outlined by Ritchie and Spencer (2002).

**Results:** Results: Analysis yielded a conceptual framework of eight themes related to care transitions. Two of these – patient complexity and system constraints - are important contextual factors. Factors which should be addressed in care transition interventions are described in six themes: patient involvement and choice, family caregiver involvement, relationships, health care provider coordination, information sharing, and documentation.

**Conclusion:** Conclusion: Successful care transitions require strong relationships among patients, family caregivers and health care providers. Systems of information sharing need to ensure needed information is gathered from, and shared with, all of these partners. Together with stakeholders, we are working to apply this framework to improve systems for care

**Author Names:** Paul Stolee, University of Waterloo; Jacobi Elliott, University of Waterloo; Kerry Byrne, University of Waterloo; Joanie Sims-Gould, University of British Columbia; Catherine Tong, University of Waterloo; Bert Chesworth, Western University; Mary Egan, University of Ottawa; Christine Ceci, University of Alberta; Dorothy Forbes, University of Alberta

# *Mood Disorders in Late-Life: A Population-Based Analysis of Prevalence, Risk Factors and Consequences in Community-Dwelling Older Adults in Ontario*

Ms. Rachel Strauss, University of Toronto

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Home Care, Long Term Care and Aging

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Survey Research Methods

**Background and Objectives:** Mental health issues in late-life is a growing public health challenge as the population aged 65 and older rapidly increases worldwide. An updated understanding of the causes of mood disorders and their consequences in late-life could guide interventions and system planning for this underrecognized and undertreated problem. We undertook a population-based analysis to quantify the prevalence of mood disorders in late-life in Ontario, Canada and to identify potential risk factors, and consequences.

**Approach:** Individuals aged 65 or older participating in 4 cycles of a nationally-representative survey were included. Self-report of a diagnosed mood disorder was used as the outcome measure. Using linked administrative data, we quantified associations between mood disorder and potential risk factors such as demographic/socioeconomic factors, substance use, co-morbidity. We also determined associations between mood disorders and 5-year outcomes including health service utilization and mortality.

**Results:** The prevalence of mood disorders was 6.1% (4.9% among males, 7.1% among females). Statistically significant associations with mood disorder included age, sex, food insecurity, chronic opioid use, smoking, and morbidity. Individuals with mood disorders had increased odds of all consequences examined, including placement in long-term care (adjusted OR [odds ratio]=2.28 95% CI [confidence interval]: 1.71-3.02); and death (adjusted OR=1.35 95% CI: 1.13-1.63).

**Conclusion:** Mood disorders in late-life were strongly correlated with demographic and social/behavioural factors, health care use, institutionalization and mortality. Understanding these relationships provides a basis for potential interventions to reduce the occurrence of mood disorders in late-life and their consequences of health service utilization.

**Author Names:** Rachel Strauss, University of Toronto; Richard Glazier, Institute for Clinical Evaluative Sciences; Paul Kurdyak, CAMH

## *Collecting A Patient's Family Physician Information in Hospital – A need for specific hospital policies and a better health card*

Mr. Matthew Tersigni, University of Toronto

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health Human Resources

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Primary care physicians value the continuity of care they have with their patients not only in the community but also within acute care settings. Hospitals, especially, are responsible for providing family physicians with notice of their patient's admission and respective discharge summaries. This necessitates the sometimes-difficult collection of a patient's family physician. Challenges with collection include a patient's status at admission (i.e. unconscious), the diligence of hospital staff, and human error (i.e. incorrect spelling).

**Approach:** Medicine and Rehab inpatients (n = 319) were interviewed to determine the accuracy of the family physician field collected by hospital staff upon initial registration. Working groups were formed to determine the needs of primary care providers, the capability of hospital staff, and potential ways hospitals and physicians can improve. A formal hospital protocol was added to validate and update the family physician field upon admission to an inpatient unit. Proposals for Health Card sleeves with printed family doctor information are also being discussed to determine ways family doctors can ensure all patients can relay accurate information to the hospital.

**Results:** Before hospital protocols were implemented, inpatients (n=100) were surveyed regarding their family physician information. Approximately 40% of patients had inappropriate information in their family physician field or could not respond. After a Charge nurse-led protocol was implemented, 219 patients were surveyed. Of those patients, it was determined that 58.7% had their family physician correctly entered into their charts. A large proportion (20.6%) could not be validated even 48 hours after admission. Another 20.6% of the surveyed patients were identified to need their family physician information updated. Patients required an update when they were 'unable to ask on admission', the 'wrong family doctor' was initially recorded, and the name of the doctor was spelled incorrectly.

**Conclusion:** The present work describes gaps that interfere with the continuity of care between family physicians and their patients. Creating specific hospital protocols improves data accuracy but is labour intensive. There is an increasing need for augmenting patient's health cards to include other pertinent health data.

**Author Names:** Matthew Tersigni, University of Toronto; Deepanshu Sharma, University of Toronto

## *Enhancing the identification and management of frailty in primary care*

Mrs. Manpreet Thandi, University of British Columbia

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Over one million older adults in Canada are medically frail and in 10 years, this number is expected to double to over two million. Frailty is generally defined as a medical syndrome with multiple causes, usually characterized by a loss of muscle mass and strength, weakness, weight loss, and decreased physical activity, resulting in an increased risk of health deterioration, functional decline, and overall negative health outcomes.

**Approach:** In primary care, the goals of caring for those who are frail are to: 1) prevent or delay increasing frailty severity; 2) improve function and quality of life; and 3) avoid unnecessary admission to hospital or long-term care. To achieve this, consistent and accurate detection and reporting of frailty is essential. Our purpose is to enhance the identification and management of frailty in primary care settings. In collaboration with the Canadian Frailty Network and the Canadian Primary Care Sentinel Surveillance Network (CPCSSN), our work will provide primary care clinicians with patient panel identification of frailty through CPCSSN quality improvement tools.

**Results:** Using the Rockwood Clinical Frailty Scale, clinicians provided assessments for a selection of their patient panel aged 65 and older. Clinicians rated patients' frailty on a scale of 1-9, where a higher score indicated increased frailty. These assessments created the necessary dataset to use machine-learning techniques to identify patients at risk of frailty. To date, we have collected 4160 clinical frailty scores across five Canadian provinces. 16.6% (n=689) of the total number of patients were identified as frail (scored greater or equal to 5 on the Rockwood Clinical Frailty Scale). Of these patients, 37.2% (n=250) were male and 62.8% (n=433) were female, and the mean age was 80.0 (SD 8.5). We will have a more detailed analysis by the time we present the results.

**Conclusion:** Early identification of frailty is key to enhancing quality of life and quality care for potentially frail patients. It has the potential to reduce healthcare system spending by altering patients' health trajectories through early intervention and the prevention of worsening symptoms known to be associated with frailty.

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## *Cost-Utility Analysis of the Electronic Patient Reported Outcomes Tool (ePRO): An eHealth Solution for Community-Dwelling Complex Seniors in Ontario*

Mr. Zakariya Thraya, Institute of Health Policy, Management and Evaluation; University of Toronto

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**Category:** Poster

**Primary Theme:** Chronic Disease Management

**Secondary Theme:** Health Economics/Financing/Funding (including cost and economic analysis)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Economic Analysis or Evaluation

**Background and Objectives:** eHealth technologies for self-management can improve quality of life, but there is limited economic evidence. The electronic Patient Reported Outcome (ePRO) mobile app and portal supports patients with multiple chronic conditions to collaborate with primary health care providers to set and monitor health-related goals. This study aims to estimate the cost-effectiveness of the ePRO intervention compared to standard care for patients with multiple chronic conditions and complex needs living in the community.

**Approach:** A cost-utility analysis alongside a stepped-wedge cluster randomised trial with a decision tree model was conducted to estimate the incremental cost per quality-adjusted life-year (QALY) gained for the ePRO tool versus standard care. The model was conducted from the perspective of a publicly funded healthcare system. The time horizon was 15 months. Effectiveness in improving quality of life and costs of the ePRO tool were drawn from the trial. Health care utilization data (adjusted to 2018 Canadian dollars) were sourced from the literature. Costs and health outcomes were not discounted. Deterministic and probabilistic sensitivity analyses were conducted.

**Results:** Compared to standard care, the ePRO was associated with higher costs and improved QALYs, with the incremental cost-effectiveness ratio (ICER) of \$22,905/QALY. The ICER was substantially lower based on the threshold of \$50,000 commonly adopted in Canada. Deterministic sensitivity analysis showed that values ranged from \$9,012 in the best-case scenario to \$730,050 per QALY in the worst scenario. The probabilistic sensitivity analysis demonstrated wide uncertainty on the cost-effectiveness of ePRO due to the small difference in health utility values between ePRO versus standard care.

**Conclusion:** The ePRO tool may be cost-effective, but further research is needed to account for the large uncertainties and to investigate the effects of long-term outcomes. However, the present findings add to the growing evidence supporting eHealth interventions' capacity to respond to complex aging populations within finite-resourced health systems.

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## *Comparing the Effect of Multiple Throughput Factors on Emergency Department Crowding: A Simulation Study*

Mrs. YUAN TIAN, SK Health Quality Council

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** The objective is to assess the impact of throughput factors, including laboratory tests, diagnostic imaging, specialist consultations, and physician scheduling on emergency department (ED) crowding. This study compares how throughput factors affect ED wait time and length of stay and identify which of the throughput factors strongly influence ED performance and potentially might be addressed to reduce crowding and improve ED patient flow.

**Approach:** Administrative health data was used to identify visits made to two EDs in Regina, Canada, between April 2017 and March 31, 2018. These visits were linked with patient data retrieved from the Radiology Information System and Saskatchewan Laboratory Results Repository to identify patients engaged in throughput processes (laboratory tests and diagnostic imaging). We used discrete-event simulation to reconstruct patient pathways from ED presentation to discharge and will assess the impact of operationally realistic throughput-related scenarios on flow performance. Main output measures include wait time, the proportion of patients who leave without being seen, ED length of stay.

**Results:** Ninety-nine thousand six hundred and sixty-two ED visits occurred in two studied EDs during the study period. 64.8% of patients received at least one intervention (diagnostic tests or specialist consultations) during their visits. We then developed and validated a discrete-event simulation to mimic care processes in the studied EDs. Using the validated ED flow model, we will estimate the effects of improvement of various throughput factors: additional physician resource, decrease in waits for consultation, and improving turnaround time for diagnostic tests. The results of our simulation will quantify the impact of each factor on ED performance.

**Conclusion:** Discrete-event simulation is instrumental in testing the impact of integrating evidence-based operations within emergency care. A range of strategies may help alleviate ED crowding. The early findings suggest that additional physician resources can help reduce ED wait times, but more research on the process needs to be done.

**Author Names:** YUAN TIAN, SK Health Quality Council; James Stempien, Saskatchewan Health Authority; Vivian Onaemo, SK Health Quality Council; Rhonda Eberle, Saskatchewan Health Authority; Glenda Kaban, Saskatchewan Health Authority; Sheila Smith, Saskatchewan Health Authority; Angela McTaggart, Saskatchewan Health Authority; Glen Perchie, Saskatchewan Health Authority; Paul Holyoke, Saint Elizabeth Health Care

*Implementation evaluation of a train-the-trainer strategy to support the sustainability of evidence-based practice guidelines for nurses and social workers in primary care*

Ms. Vanessa Vaillancourt, Université de Sherbrooke

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**Category:** Poster

**Primary Theme:** Mental Health and Addictions

**Secondary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Development and implementation of evidence-based innovations, such as practice guides, are strongly incentivized as part of the primary care reform in Canada. In the Province of Quebec, the creation of interprofessional care models involving nurses and social workers as members of family medicine groups (FMGs) lead to the creation of two evidence-based practice guidelines for those professionals. To develop, implement and evaluate a train-the-trainer strategy to support the use of practice guidelines within FMGs.

**Approach:** We used a multiple case study using a developmental evaluation approach and selected seventeen FMGs located in three administrative regions of Quebec. We plan to develop and implement a train-the-trainer strategy informed by a patient-oriented research approach, the Kirkpatrick learning model, and evidence-based practice guidelines. Trainers will be targeted among healthcare organization, patients, nurses and social workers. Both qualitative and quantitative data will be collected using logbooks, focus groups, interviews and questionnaires from trainers, professionals, patients and decision-makers. Furthermore, we will collect additional data to inform the scalability assessment of this strategy.

**Results:** It is known that a sustained educational intervention improves efficacy of the innovation implementation in a context of professional practice development. In this sense, we think that our evidence-based train-the-trainer strategy will be efficient to implement the new practice guidelines and will allow a large-scale adoption within Quebec FMGs. We also forecast barriers to the realization of our project. Indeed, we expect some resistance to change related to the particular economic, governance and interprofessional issues of health establishments. We also anticipate some concerns related to the availability of the clinical trainers to fulfil their role.

**Conclusion:** Results should increase our understanding of the implementation and scaling up of these two evidence-based practice guidelines throughout the Province of Quebec. Ultimately, this project should support FMGs in the optimization and synergy of professional practices to improve patient services.

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## *Older adults' trajectories of health and social care in two Canadian provinces*

Dr. Isabelle Vedel, McGill University

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**Category:** Poster

**Primary Theme:** Home Care, Long Term Care and Aging

**Secondary Theme:** Collaborative Healthcare Improvement Partnerships

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Mixed Methods

**Background and Objectives:** Populations around the world are rapidly ageing, and health systems need to adapt to such changes. However, more information is needed on how health system factors affect the care trajectories for older people in Canada. The objective is to identify different care trajectories for older people in Quebec and Ontario and the health systems/policy factors that might affect these trajectories.

**Approach:** This is a multiphase mixed methods study.

In Phase 1, one stakeholder consultation will be held in each province to select, contextualize and prioritize indicators from the International Consortium for Health Outcomes Measurement for older people.

In Phase 2, linked clinical surveys and administrative data will be analyzed using sequence analysis to develop a taxonomy of trajectories. Concurrently, a comparative policy analysis will be conducted to compare taxonomies with healthcare policies.

In Phase 3, vignettes will be developed in consultation with stakeholders and analyzed with a multicase qualitative study to understand the factors impacting trajectories within and across provinces.

**Results:** We will present the study protocol and preliminary results. Results from this study will inform policies to support optimal older adults' healthcare experiences in both provinces with the potential to be scaled-up over Canada. We will develop recommendations in the form of policy briefs to support the identification, spread, and scale-up of policies with the most potential to be patient-centred and to ensure older adults live safely and comfortably in their preferred environment for as long as possible.

**Conclusion:** This project has significant potential to impact policy as the issues it seeks to address are among those already on the policy agenda. Various types of reforms are already underway, so the results of this research have the potential to impact efforts already in motion.

**Author Names:** Isabelle Vedel, McGill University; Genevieve Arsenault-Lapierre, Family Medicine Department of McGill University; Rachel McKay, McGill University; Laura Rojas-Rozo, Lady Davis Institute; Amélie Quesnel-Vallée, McGill University ; Clara Bolster-Foucault, McGill University

## *Impact of Ontario's Hip and Knee Bundled Payment Intervention*

Mr. Kevin Walker, University of Toronto

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Program or Policy Evaluation

**Background and Objectives:** The Ontario Ministry of Health (MOH) introduced bundled payment for primary unilateral hip and knee replacements performed at a voluntary group of 33 acute care hospitals in April 2018 and full-scale implementation to all acute hospitals in April 2019. In bundled payment, bundle holders receive a single price per patient for acute care and immediate post-acute rehabilitation costs. The objective of this study was to evaluate the impact of bundled payment on several performance metrics.

**Approach:** We calculated monthly performance metrics from administrative data and used multi-group Interrupted Time Series Analysis to compare trends pre- (April 2015 to March 2018) and post-bundled payment (April 2018 to March 2019) for the group of early adopter hospitals (voluntary) and the group of late adopter hospitals (waited for bundling to become mandatory). The performance metrics selected in this study are metrics recommended by the MOH and Health Quality Ontario advisory group included: volume, length of stay, alternate level of care, post-acute rehabilitation utilization by setting, 90-day adverse events, 12-week surgeon follow-up, and 30-day readmissions, ED visits, and mortality.

**Results:** Among early adopters, there was a significant acceleration in the rate of decline in the percentage of both hip and knee replacement patients discharged to inpatient rehabilitation and a very significant decline in the percentage receiving a homecare physiotherapy visit within 14-days of discharge in the post-bundled payment period. This was not observed amongst late adopters. A newly available data source showed an increasing use of outpatient rehabilitation over the first year of bundled payment. There was no additional impact of bundled payment consistent across both hip and knee replacements on any of the other performance metrics (e.g. LOS, readmissions, ED visits).

**Conclusion:** Bundled payment is intended to improve efficiency by shifting care to the least expensive and most appropriate setting. Ontario's new bundled payment has seen a shift in post-joint replacement rehabilitation setting. Additional data sources are required to ensure patient outcomes, such as function, QOL and experience, were not adversely impacted.

**Author Names:** Kevin Walker, University of Toronto; Ruth Hall, ICES; Walter Wodchis, University of Toronto; Imtiaz Daniel, Ontario Hospital Association; Gayathri Embuldeniya, Institute of Health Policy, Management and Evaluation, University of Toronto; Jennifer Gutberg, Institute of Health Policy, Management, and Evaluation, University of Toronto

*A scoping review: Comparing Canadian and American federal-level health policy and the associated impacts on access to care in First Nations and American Indians/Alaska Natives communities.*

Ms. Denise Webb, Institute of Health Policy, Management and Evaluation, University of Toronto

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**Category:** Poster

**Primary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**Secondary Theme:** Indigenous Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Both Canada and the United States have a federal obligation to deliver healthcare services to First Nations (FNs) and American Indian/Alaska Natives (AIANs) populations. Indigenous health policy action and implementation differs among the two jurisdictions, however, there is currently inequitable healthcare access in both FNs and AIANs communities. This study aims to expand on these contextual differences and to summarize the associated impacts of Canadian and American federal-level health policy on access to care.

**Approach:** A scoping review will be employed, using the PRISMA extension for scoping reviews protocol, to summarize existing grey and published academic literature in English. Databases will likely include PAIS Index, Research Gate, iPortal and Native Health Base. Search strategies will focus on population (First Nations and American Indian/Alaska Natives), intervention (health policy) and outcome (access to care) search concepts. Findings will be categorized according to accessibility and policy frameworks. The study will be complemented with validation interviews with First Nations and American Indian/Alaska Natives health policy experts, in order to validate the interpretations of the findings from the main review.

**Results:** The results from this study are expected to inform the field of Indigenous health policy, as well as future work and policy lessons focused on improving health equity and healthcare access among First Nations (FNs) and American Indian/Alaska Natives (AIANs) communities. Anticipated distinctions between Canadian and American federal-level health policy are expected to highlight similar factors impeding on access, however, also bring to light the differences in policy language and tools used behind federal decisions governing access to care. Additionally, findings are expected to draw attention to the many forms of access that are influenced by health policy, such as equitable geographic location, financial, and culturally appropriate access to health services.

**Conclusion:** This study aims to support improvements in health equity and access to care in First Nations and American Indian/Alaska Natives communities. Both populations experience similar inequitable access, however, comparing the role of Canadian and American federal-level health policy has yet to be explored. The present study will address this gap.

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## *Access to Provincial Primary Care During Transition to Civilian Life Among Canadian Armed Forces Veterans*

Ms. Ashley Williams, Queen's University

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**Category:** Poster

**Primary Theme:** Primary Healthcare

**Secondary Theme:** Health System Performance (including access to care, quality, safety, efficiency, leadership)

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** Yes

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Qualitative Research Methods

**Background and Objectives:** Canadian Armed Forces members access Canadian Forces Health Services during service and must transition to provincial primary care after release. Finding a healthcare provider is a commonly reported challenge during transition to civilian life and concerns have been raised about provincial health systems' capacity to address Veteran need. No research has directly investigated the transition to provincial primary; this study aims to address this knowledge gap.

**Approach:** Two studies will be conducted to address the objectives. First, a qualitative study will be conducted using a phenomenological approach to explore Veteran experiences in transitioning to provincial primary care. Individual interviews will be conducted with Veterans who recently released from the military and data will be analysed using phenomenological data analysis. Second, a case study will be conducted with a Family Health Team in Ontario to examine how primary care is provided to Veterans. Data collection will include several information sources (i.e., interviews, chart audits, observation, and a document review) and analysis will be conducted using Creswell's (2014) steps.

**Results:** The results of the phenomenological study will provide an in-depth understanding of the transition from Canadian Forces Health Services to provincial primary care, including barriers and facilitators associated with the health service transition, the impact this transition has had on participants' health and well-being, and recommendations on how this transition can be improved. Case study results will provide rich data from multiple sources within an interdisciplinary primary care team. The insight gained from this unique case will provide primary care organizations and providers as well as other stakeholders (e.g., Veterans Affairs Canada) with knowledge that can increase the capacity of provincial primary care to provide excellent care to Canadian Armed Forces Veterans during the transition to civilian life.

**Conclusion:** This study will address a knowledge gap regarding Veteran healthcare transition associated with military release. Results will have implications for federal and provincial bodies (e.g., Ministries of Health, Canadian Armed Forces, Veterans Affairs), primary care providers, and future Veterans.

**Author Names:** Ashley Williams, Queen's University; Heidi Cramm, Queen's University; Catherine Donnelly, Queen's University; Brent Wolfom, Queen's University; David Pedlar, Canadian Institute for Military and Veteran Health Research (CIMVHR)

## *Risk factors of 5th Minute Low Apgar score Among Newborns at Public Hospitals in South Ethiopia, 2019: Case-control study*

Mr. Alex Yeshaneh, Wolkite University, College of Medicine and Health Science

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**Category:** Poster

**Primary Theme:** Maternal and Child Health

**Secondary Theme:** Primary Healthcare

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Healthcare Service or Policy Initiative

**Background and Objectives:** Introduction: Apgar score is significant forecaster of the newborn morbidity and mortality. It is a simple evaluation system which offers a standardized, effective and convenient assessment for newborns. Neonatal morbidity and mortality can be reduced if high risk neonates identified and adequately managed. The aim of this study was to assess risk factors of 5th minute low Apgar score among newborns at Public hospitals in South Ethiopia.

**Approach:** Methods: Hospital based unmatched case-control study was conducted in Hawassa city, South Ethiopia. Data were collected from 134 cases and 267 controls using structured questionnaire by observing, interviewing and reviewing patient card. For every case two consecutive controls were selected to reach study subjects. Data entry and analysis were made by using Epi Data version 3.1 and SPSS version 20 respectively. Both binary and multivariable analyses with 95% confidence level were carried out. In final model, variables with  $P < 0.05$  were considered as statistically significant.

**Results:** Result: A 134 cases and 267 controls were took part in study giving response rate of 100%. After controlling possible confounding factors, result showed that lack of doula care during labor and delivery [AOR=3.5], meconium stained amniotic fluid [AOR=4], prolonged second stage of labor [AOR= 3.5], post term pregnancy [AOR=2.3] and low birth weight [AOR=6.2] were risk factors of low Apgar score.

**Conclusion:** Conclusion: Lack of doula care during labor and delivery, meconium stained amniotic fluid, prolonged second stage of labor, low birth weight and post term pregnancy were risk factors of low Apgar score. Effective health educations during preconception and ANC will help in detecting high-risk pregnancy that lead to Low birth

**Author Names:** Alex Yeshaneh, Wolkite University, College of Medicine and Health Science



## *Effect of scaling up family planning on maternal survival in Ethiopia: Spectrum modeling*

Mr. Alex Yeshaneh, Wolkite University, College of Medicine and Health Science

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**Category:** Poster

**Primary Theme:** Health Policy, Healthcare Reform (includes priority setting, politics)

**Secondary Theme:** Maternal and Child Health

**I will present my work in:** English

**Is this research being conducted and presented by a student?:** No

**Is this research being conducted and presented by a postdoctoral fellow?:** No

**Importance and Relevance of the Topic:**

**Methods:** Emerging Methods (e.g. new developments in observational study design)

**Background and Objectives:** According to the Fragile States Index, Ethiopia is one of 15 countries which were considered to be “high alert” maternal mortality. The current trend of maternal and child mortality reduction is not sufficient to achieve the sustainable development goal three of maternal and child mortality reduction target. This paper aimed to model the effect of scaling up family planning on pregnancies, live births, still birth, abortion, maternal mortality in Ethiopia.

**Approach:** We used spectrum software package to model impact of family planning on maternal and child survival. Spectrum has different modules consisting of demproj module, famplan module, LiST (life saved tool, AIM (Aids Impact model). We have used famplan and LiST modules for this particular paper. Base line national data were taken from findings of Ethiopian demographic and health survey 2016 results, World Bank and World Health Organization country specific reports.

**Results:** Total fertility rate will decline to 3 children per women by the year 2030 when contraceptive prevalence is scaled up by 2% annually from 2016 to 2030. As a result of scaling up family planning use to 58% by 2030 around 3.17 million additional unintended pregnancies can be averted. Unmet need for family planning will significantly decline to below 5% by 2030

Ninety four thousand unsafe abortions could be averted and one thousand two hundreds thirty three additional maternal lives can be saved by scaling up contraceptive use to 58% by 2030 in Ethiopia.

**Conclusion:** Family planning is effective intervention to reduce mortality in countries with high fertility. Scaling up family planning has shown significant effect to achieve SDG three of maternal mortality reduction. Considerable proportion of unintended pregnancies and unsafe abortion can be averted by scaling up contraceptive prevalence by 2% annually until 2030.

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