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politiques de la santé

ID: 567

Author: Kavya Anchuri

Title: Stay Connected Mental Health Project (SCMHP): Improving transitions-of-care from pediatric to adult mental health services in Halifax, NS

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Stay Connected (SCMHP) is a Halifax-based mental health transitions improvement program established in 2013. It addresses systemic barriers in transitions-of-care from pediatric to adult mental health and addictions (MHA) services—barriers causing loss to follow-up and incomplete treatment when patients reach age 19 and conclude pediatric care. SCMHP is entering its evaluative phase where embedded research will be conducted to inform best-practices for improved collaboration between pediatric and adult MHA services.

Approach: SCMHP seeks to improve collaboration between pediatric and adult MHA services by:

- 1) Promoting shared management of care among clinicians through joint clinical sessions ('transition meetings');
- 2) Driving a 'culture shift' whereby transitioning patients/ families are provided adequate resources to remain in care; and
- 3) Fostering patient self-management/ literacy around transition.

An innovative mixed-methods approach for evaluating SCMHP impact is guided by the following logic model:

- 1) Deconstruct SCMHP into its twelve programmatic components;
- 2) Delineate philosophical vs. intended measurable outcomes of each component;
- 3) Develop questions addressing the intended measurable outcomes;
- 4) Determine evaluation design by identifying requisite data, methods for acquiring data, and relevant analytical frameworks.

Results: Embedded Research (ER) is useful in illuminating systemic barriers that influence everyday decision-making processes. Pediatric-to-adult transitions in mental health care are carried out by negotiating systemic processes in service delivery, thus conducive to evaluation by ER. Through qualitative interviewing of MHA stakeholders and analyzing Halifax MHA service-use data from 2007 to present-day, we anticipate our results will describe changes in, for example:

- 1) The proportion of 'transition meetings' held each year for patients aging out of pediatric care,
- 2) Temporal gaps in service-use between pediatric and adult mental health services, and
- 3) Self-reported patient/ family satisfaction with available support during transition process.

These results, completed by May 2019, will articulate both qualitative and quantitative impacts on successful patient transitions and program reach of SCMHP.

Conclusion: Embedded research will be conducted for the evaluative phase of this program to support the long-term integration of SCMHP into Halifax MHA services, allowing SCMHP to serve as a Canadian best-practice example in dismantling system-level barriers to effective transitions-of-care and the appropriate evaluation of such efforts.

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Title: Development of a Provincial Person- and Family-Centred Health Care Policy for British Columbia

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: In fall 2017, the British Columbia Ministry of Health, released a suite of strategic policies outlining its vision for a well-designed, integrated health care system that is person- and family-centred. These policies placed patients at the centre of health care however a specific policy on person- and family-centred health care was still needed. We set out to develop a provincial policy on the attributes, values and demonstrated behaviors of person- and family-centred health care.

Approach: Led by the Ministry's Patients as Partners Initiative, a cross health sector working group comprising patients, caregivers and health sector partners, conducted this project using a qualitative study design. We conducted: 1) literature review on best practices for person- and family-centred care and commissioned a McMaster Review on "What features of person-centred models of care do patients, families and caregivers value?"; 2) facilitated in-person focus group with patients and caregivers to identify the most valued features, created personas and patient journey maps for points of intersection with the health-care system; and 3) consultations with provincial health authorities and physician organizations.

Results: The literature review and rapid review identified key values and attributes, best practices, methods of implementation, and measurement of person- and family-centred health care. Fifteen patients and caregivers participated in two focus group sessions. They identified six themes: "access to care", "informed", "self-management", "be understood and included", "team care", and "emotional support". These themes aligned with those found in the literature. These six themes informed the content of the policy through a collaborative process within the working group. The opportunities and challenges of implementing the policy were identified through regular consultations with the working group. The resulting policy provides a definition, four core values, and demonstrated behaviours of person- and family-centredness at the direct clinical care, community and the health system levels.

Conclusion: An innovative, evidence-informed policy development process was used to create the Person- and Family- Centred Health Care Policy. It provides direction to the planning, design and delivery of all health services in BC in order to meet the needs, values, and preferences of health services users and providers.

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Author: Shauna Best

Title: The Development and Impact of Clinical and Research Partnerships at a Pediatric Tertiary Care Facility

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: In the role of a manager for multiple teams within a pediatric tertiary care centre, quality improvement is essential. Areas for quality improvement within the health care system are continually being identified by a range of individuals, including families, health care practitioners, administrators and policy makers. Most often, these practice and policy gaps are ongoing complex clinical issues requiring the involvement of multiple stakeholders. Recognizing this challenge, we developed a partnership with an established research

Approach: In response to a variety of practice and policy gaps, a partnership was formed between the manager of Inpatient Surgical Care and Child Life Services and the Strengthening Transitions in Care Lab at the IWK Health Centre. We worked together to identify relevant and priority practice and policy gaps. To develop strategic quality improvement initiatives, appropriate internal and external linkages were formed across the health service organization, academic university, and government.

Results: We have used this collaborative clinical research approach to address a number of complex clinical issues, including early warning systems, high-dependency care, new models of service delivery, and respite care. We leveraged entities such as the Joanna Briggs Institute to facilitate knowledge synthesis surrounding each of the practice gaps. This multi-disciplinary partnership helped us to identify relevant evidence-based solutions that fit within our unique health system environment. This partnership also facilitated new multi-jurisdictional and national networking collaborations that are helping to inform care delivery within our health system.

Conclusion: Through the active engagement of researchers, clinicians, and administrators, best practice changes have occurred in multiple areas of our health care system. Building this partnership has helped to ensure the development of sustainable quality improvement initiatives with an infrastructure for ongoing evaluation.

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Author: Andrea Bishop

Title: Using a behavioural science approach to explore wicked problems in community pharmacy

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Pharmacy stakeholders in Canada have been grappling with wicked problems impacting pharmacy practice, resulting in unrealized pharmacist potential. As pharmacists attempt to use the full extent of their knowledge and skills in their practice, the profession struggles to overcome workplace- and system-level barriers. The aim of the National Summit on Wicked Problems in Community Pharmacy was to better position the profession to develop a theoretically-sound and unified approach to current challenges through behavioural science.

Approach: Behaviour change experts introduced Summit participants to the Theoretical Domains Framework (TDF), COM-B model and the Behaviour Change Wheel (BCW). One half-day was focused on using a worked example to apply behavioural science and demonstrate its utility and value when designing a multi-faceted, multi-stakeholder strategic approach. In small groups, participants responded to a series of questions concerning how problems could be tackled using the COM-B Model. Representatives from each group shared their discussion with all participants and responses were mapped to the COM-B Model. Potential future interventions based on COM-B findings were then identified and discussed.

Results: The Summit brought together 120 pharmacy practice stakeholders representing regulators, employers, researchers, educators, practitioners, professional associations, government, and patient safety organizations. Attendees noted an increased appreciation for the complexity of the issues and challenges facing the pharmacy profession. While previously there may have been a propensity to tie many of the issues to current remuneration structures or interjurisdictional differences, respondents indicated that discussions at the Summit were instrumental in identifying many intra-professional behaviours. Using a behavioural science approach provided three key advantages: (1) it discouraged decision-making based on “it seemed like a good idea at the time,” (2) it allowed for a deeper dive of the behaviours underpinning issues, and (3) it provided a systematic method and common language.

Conclusion: The Summit provided a foundational first step in establishing a theory- and evidence-informed approach to work the wicked problems of community pharmacy. Participants identified the need for more rigorous research and evaluation tools based on the TDF/COM-B to identify common barriers and challenges and allow for cross-jurisdictional evaluation.

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Title: A province wide strategy to enhance community based care in Alberta

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Acute and specialty care, provided by highly skilled and dedicated professionals, have a prominent role in the Alberta's healthcare landscape. In recent years, improvements have been made in increasing the capacity and reducing costs related to specialty care in acute care facilities. Nevertheless, there is a need for improved system integration by balancing acute and specialty care with community-based health services. In response, a multi-phase provincial strategy was initiated in 2017 by Alberta Health Services.

Approach: Enhancing Care in the Community (ECC) strategy was developed with the overarching goal of achieving the right balance between community care and acute and specialty care by 2020. In 2017, provincial funds were made available to support the expansion and integration in the Alberta health system of community-based programs aligned with the ECC's overarching goal. From 120 proposed initiatives, a working group consisting of clinical operational leaders from across Alberta Health Services (AHS) selected 29 programs to be funded in the first phase. As the strategy is unfolding in the province, more initiatives will be integrated in the system.

Results: AHS is committed to creating a "learning organization", where ongoing evaluations allow decision makers to improve or eliminate initiatives that are not reaching their goals, and learn from those that perform well. The AHS 2017-2020 Health and Business plan balances health outcomes, costs, patient, and provider satisfaction. These four aims are being applied in developing the ECC System Measures Dashboard. The measures included in this dashboard, such as hospitalization rates, patient satisfaction scores, access of community services, client outcomes, and investment ratios, aim to assess the collective impact of the ECC program provincially. Further, the four aim quality improvement framework is being applied to developing program-specific measurement and evaluation plans to monitor the success of individual initiatives.

Conclusion: The ECC strategy is shaping the future of the healthcare system in Alberta by implementing well planned cultural, system and policy initiatives that will enhance the care available in the community. This vision promotes the appropriate balance of acute and specialty care with community health and social supports.

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Title: Proposing BetterCare for Seamless Transitions in Care: Integrating the Provincial Co-ordinated Care Plan into Sunnycare: Sunnybrook Hospital's Electronic Health Record

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Advance care planning (ACP) and goals of care (GOC) discussions allow patients (or substitute decision makers (SDM)) to document patient preferences in advance of needing end-of-life care in accordance with their wishes. Currently, Sunnybrook ACP documentation is inconsistent and not always readily accessible. The primary objective is to provide care aligned with patient preferences at end-of-life. Secondary objectives include improving patient experience, decreasing the number of ED visits, avoidable hospital admissions and hospital deaths.

Approach: Study design will be a quality improvement study of oncology patients (prognosis less than 3 months attending outpatient palliative care clinics) after incorporating a coordinated care plan (BetterCare) into the electronic health record. Performance metrics will be: 1) Percentage of BetterCare plans with completed ACP 2) Emergency Department visits 3) Avoidable Hospital Admissions 4) Alignment of Care with Patient's ACP 5) Patient Experience and 6) Use of Community Resources. Success will be measured by ACPs within BetterCare, decreased ED visits, hospital admissions, hospital deaths and increased patient experience, use of community resources and care aligned with patient preferences in ACP/GOC.

Results: By late 2019, it is anticipated that BetterCare will be available through Sunnycare. The aim will be to make CCPs and ACPs an integral part of the patient's electronic health care record, and through MyChart, allow for real-time communication and data collection to help inform patients' Circle of Care of their preferences. It is hypothesized that BetterCare-enrolled palliative patients will have fewer avoidable overall hospital visits (particularly at end-of-life), increased community care, improved patient experience and die in their preferred location.

Conclusion: If we are able to pilot the first digital co-ordinated care plan with community access via MyChart, it could be adopted provincially and extended to other patient populations with life-limiting illnesses requiring palliation.

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Title: The Business Case for a Reactivation Center in the North Sub-region of Toronto Central Local Health Integrated Network

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Between 2017-18, Ontario spent 1.1 billion dollars on hospitalized patients waiting for alternate level of care (ALC) beds. To improve value for care, the Ministry of Health invested into community Reactivation centers. The goal is to transition ALC patients back into the community outside of hospital. The objective is to determine the return on investment of a Reactivation center (Pine Villa) compared to staying in hospital (Sunnybrook Health Sciences Center).

Approach: This is a before-after observational study of Reactivation patients. Costing will be from the government payer perspective. The following data will be collected: 1) Hospital length-of-stay (LOS) 2) Hospital days waiting for Reactivation 3) Reactivation Unit LOS 4) Final destination of Reactivation patient compared to anticipated 5) Associated costs and 6) Averted costs. Primary outcome is the cost consequences before and after Pine Villa. Secondary outcomes include hospital LOS, Reactivation unit LOS, percentage of ALC hospitalized patients eligible for Reactivation and final destination of Reactivated patients compared to anticipated. A sensitivity analysis considering value-for-care opportunities will be performed.

Results: Pending. It is expected that reactivation centers will provide a positive return on investment compared to staying in the hospital.

Conclusion: Assessing Reactivation centers as a business case is a pragmatic and valuable method for evaluating quality improvement initiatives in a learning health system.

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Author: Leah Crockett

Title: Integrated Knowledge Translation (KT) in practice: a collaborative approach for developing a KT plan for problematic substance use (PSU) in Manitoba

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: The Canadian Centre on Substance Use and Addiction has called for improving the quality, accessibility and range of treatment for problematic substance use (PSU). Opioid-related overdoses and methamphetamine use has significantly increased in Manitoba in recent years, impacting individuals, their families, and health, social and justice services. This project aimed to develop a Knowledge Translation (KT) plan to identify gaps, barriers and facilitators, reduce stigma and provide treatment resources for key target populations.

Approach: This project was initiated by policy makers and undertaken by students using an integrated KT approach alongside healthcare providers in urban and rural Manitoba. An environmental scan was conducted to identify existing resources including clinical practice guidelines, reports, websites, and KT tools related to opioids, methamphetamines and harm reduction. In accordance with the Knowledge-to-Action Framework, this was complemented with 3 needs assessments targeted to individuals with lived experience, healthcare providers, and policy makers, and 17 stakeholder interviews to identify relevant gaps, barriers and facilitators. These were used to inform the KT plan, later to be implemented by provincial policy makers.

Results: Interviews were conducted with 17 stakeholders, groups or committees (e.g., family doctors, psychiatrists, addictions services) between May-August 2018. Gaps were identified and summarized into a framework relating to root causes (social determinants of health, cultural safety, community engagement, and harm reduction), health system response (emergency, crisis response, mental health/addiction supports), community supports (social service, public awareness), and evidence (monitoring, surveillance, research, KT) to manage PSU. Key actions outlined in the KT plan include enhanced multi-sectoral coordination and referral pathways, elder involvement and cultural practices in recovery, a centralized supply distribution program and a focus on harm reduction and polysubstance use, education, training, and information for health and social service workers, communication strategies for key populations, and effective measures to disseminate research and apply key resources.

Conclusion: To date, there are few KT plans related to addressing PSU. This project used a collaborative approach to outline potential KT strategies, target audiences, collaborative planning processes and suggested implementation actions for policy makers, ensuring alignment with the needs of end-users.

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ID: 602

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Title: Innovative Health Policy-Maker / Researcher Arrangements Based on a Disembedded Research Model

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: The health sector has a rich history of connecting research to policy, enhancing our conceptualization of knowledge translation and experimenting with different models for embedding researchers in healthcare organizations. However, a policy-maker rather than a researcher orientation emphasizes access to the right research expertise at the right time with a distinct rigour/relevance balance. This presentation will compare/contrast two innovative approaches involving the Institute of Health Policy, Management and Evaluation (IHPME) at the University of Toronto.

Approach: IHPME is home to a large and diverse range of health services/policy researchers and supports numerous research centres/networks that work with health policy-makers in Ontario and elsewhere. Two of these centres, Converge3 and the Accessing Centre for Expertise (ACE) represent new and innovative but divergent approaches to supporting policy-makers. Converge3 is funded by the Ontario Ministry of Health and Long-Term Care to provide evidence on health, economic and equity implications for a pre-determined number of policy questions. With minimal core infrastructure, ACE provides services on a cost-recovery basis, facilitating timely access to IHPME's research expertise. Which model is better?

Results: The presentation compares results of formative evaluations, perspectives of key stakeholders including centre leaders, staff, governance representatives, funders, and other health system/policy stakeholders. We describe the origin and evolution of each centre, its organization and structure, funding arrangements and resource utilization, delivery models, approaches to engagement with a range of health system stakeholders (focusing principally on health ministry, public/patient stakeholders and researchers), and outcomes/impact. While the two centres draw on the same core research expertise at IHPME, the intensity of stakeholder engagement, responsiveness, quality of work, productivity, resource use, and ability to engage and leverage research expertise differs, providing important insights on disembedded research approaches for informing health policy.

Conclusion: IHPME researchers have a long history of supporting healthcare organizations. Two new centres, Converge3 and ACE, represent innovative approaches to connecting policy-makers and researchers, but despite operating within the same setting with overlapping principal players, the results differ. These findings can inform other efforts to re-envision researcher/policy-maker arrangements.

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Author: Cathy Eastwood

Title: The Centre for Health Informatics: A Revolutionary Hub for Health Informatics in Alberta

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Precision Medicine and Precision Public Health could improve health care system performance and population health. Achieving these goals requires innovation in health informatics. The Centre for Health Informatics (CHI) within the Cumming School of Medicine at the University of Calgary was created to respond to this need by fostering multidisciplinary collaborations, building capacity by recruiting and training outstanding faculty and students, and harnessing Alberta's rich health data to advance health informatics.

Approach: To establish CHI as a health informatics leader, we have struck partnerships with stakeholders including Alberta Health Services (AHS), Alberta Health, and the Strategy for Patient-Oriented Research. CHI will develop demonstration projects ranging from data science methods to analytics and applications. For example, CHI is developing novel machine learning tools to exploit Connect Care, Alberta's nascent population-level electronic health record system. Additionally, as part of a World Health Organization Collaborating Centre, CHI coordinates field trials for the 11th revision of the International Classification of Disease. Capacity building initiatives include developing a new health data science diploma program, and conducting workshops.

Results: CHI has established access to Alberta's rich health data sources, including databases owned by AHS. Our partnership with the Clinical Research Unit in Calgary has provided advanced research computing infrastructure and expertise. Competitive funding has been secured from major sources, including the Canadian Institutes of Health Research. These resources are enabling development of methods to turn raw data into health information, to improve health data collection, linkage, analysis, and quality, as well as applied studies creating clinical decision-support tools, prognostic tools, improved health surveillance methods, and health system performance indicators. Key personnel are using state-of-the-art technology to build data visualization capabilities that have the potential to revolutionize communication between clinicians and patients, policy-makers and the public.

Conclusion: CHI's ecosystem of diverse research expertise, cutting-edge technology, and fluid data access via a wide-ranging network of partnerships allows our researchers, and our national and international collaborators, tremendous opportunities for empirical research, and paves the way to implementation of precision medicine in the real world.

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Titre: Recherche intégrée au Centre intégré de santé et de services sociaux Chaudière-Appalaches : stratégies et modalités de partenariat entre la recherche et l'organisation pour soutenir la prise de décision.

Type d'abstrait: Oral Presentation: Embedded Research & Future Initiatives (New)

Objectifs: Depuis 2016, le CISSS Chaudière-Appalaches connaît une expérience de recherche intégrée visant à soutenir des transformations de pratique et organisationnelles. Un boursier du Programme BAISS- IRSC s'est associé à l'expérience en 2017. Cette initiative s'est organisée au CISSS-CA autour de besoins populationnels et de préoccupation des directions du CISSS et du MSSS, sous forme de projets organisationnels répondant aux problématiques de transition de soins et de grande utilisation des urgences pour les aînées.

Approche: Dans cette présentation, nous allons rapporter une synthèse narrative des discussions réalisées au cours de la première année d'expérience entre le boursier, son superviseur académique, chercheur intégré, et le superviseur organisationnel. Ces discussions ont eu lieu à l'occasion des rencontres statutaires avec chacun des superviseurs, aux deux semaines, et les rencontres trimestrielles entre les trois. A ce bilan s'ajoute un bilan d'une première année qui a été discutée entre les trois et présentés dans le cadre d'une journée numérique du centre de recherche sur les soins et services de première ligne première ligne de l'université Laval à Québec.

Résultats: Plusieurs retombées de la recherche intégrée sont reconnues comme tangibles au sein de l'organisation par le décideur partenaire : identification/compréhension des problématiques des milieux de pratiques et de gestion, intégration de données probantes et meilleure analyse des capacités et ressources de l'organisation et des milieux de soins, appropriation et application des connaissances, décisions adaptées aux données populationnelles locales et possibilité d'identifier de nouveaux projets dans un contexte d'organisation apprenante, création d'un milieu dynamique et innovant et implication des patients/usagers partenaires selon une démarche cohérente d'amélioration continue de la qualité. Cependant, certains enjeux et défis sont à relever ont été aussi identifiés : enjeux informationnels d'accès et utilisation des données en temps opportun et les exigences éthiques imposées.

Conclusion: Le CISSS-CA connaît une première expérience très riche de partenariat/ collaboration entre décideurs, chercheur intégré et un boursier BAISS. Le bilan de cette première année a permis d'atteindre plusieurs objectifs spécifiques et communs, mais plusieurs défis restent à relever pour atteindre des « vrais gains » pour chacun.

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ID: 298

Author: Barbara Goodall

Title: The Real-World: Opportunities and Challenges of the Structured, Stepwise Development of Two Provincial Research and Evaluation Imbedded HCV Elimination Strategies in Atlantic Canada

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: In many provinces, HCV care is fragmented with little province-wide coordination, and limited real-time evaluation. With the advent of curative HCV medications, it is critical to develop and implement a comprehensive HCV model of care with innovative cost containment solutions and improved access to patient care. The goal of this study was to compare the development of HCV elimination strategies in two Atlantic provinces and identify common processes, successes, challenges, and implementation strategies.

Approach: The process of concept development and implementation was described for each province through discussion with governmental, community, private, and academic partners, as well as review of relevant policy, public and contracted documents. A hybrid effectiveness-implementation type I mixed methods study design will be used to evaluate program implementation. As well, a prospective evaluation and health outcomes research plan has been integrated into Nova Scotia's HCV elimination strategy where two previously described tools will be implemented and evaluated in Phase 1 of the strategy using a pragmatic embedded study design: training providers in motivational interviewing and point of care testing.

Results: PEI is in Phase 2 while Nova Scotia is just beginning Phase 1. Key opinion leaders identify a single Health Authority, involved community members, political will, and provision for structured research and program evaluation as key to successful strategy development in both provinces. Public Health leadership occurred earlier in NS than PEI, and was seen as an important part of the early NS plan. Early integration of the correctional system and harm reduction providers, as well as a significantly novel model for drug payment, are important to the PEI success. Phase 2 implementation was delayed in PEI through a lack of formal structure within the Health Authority. Both strategies have deferred a formal HCV screening plan or enhanced public media awareness campaign.

Conclusion: There are commonalities between the development of provincial HCV strategies that highlight the need for inter-departmental, and public private collaboration and investment for successful programing. Public health involvement, a developed clear organizational structure, and embedded research are critical towards the development of an elimination strategy where best practices remain unclear.

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Title: "She was just lying in bed for three days" The experiences of caregivers of patients who are stuck in hospital

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: A common health systems quality issue is delayed hospital discharge, known in Canada as Alternate Level of Care (ALC). An ALC designation is given when a patient's treatment is complete but his/her next point of care is unavailable. While ALC patients occupy hospital beds, care and activation usually decreases, exacerbating their already heightened risk of functional decline, falls, and hospital-related adverse events. ALC also impacts patients and their family caregivers who fill these care gaps.

Approach: One-to-one semi-structured interviews are being conducted in person or by telephone with family caregivers of patients who are waiting in hospital for an ALC. The sample target is 35 family caregivers and 23 interviews have been conducted to date). Participants are being recruited from hospitals within three health regions in Ontario (North West, North East and Mississauga-Halton), Canada. These regions have varying geographies, community resources and population characteristics. Interviews focused on caregivers' experiences of caring for patients who were designated ALC. Qualitative descriptive and interpretive analyses were used to identify core themes.

Results: Core themes to date include: patient over person (patients no longer had medical needs but still required personal care); uncertain, confusing processes (unclear steps in care); inconsistent quality of care delivery (between providers); caregivers addressing gaps in the system (caregivers provided support to patients while in hospital); and personalization of long-term care (caregivers wanted patients to be in a place that felt homelike, stimulating and in close proximity to them). Caregivers' roles continue while patients are hospitalized. ALC patients' physical and social needs are often neglected by the hospital, putting patients and caregivers at risk of additional decline. Caregivers strive to fill care gaps but factors related to geographic location, understanding of the health system and comfort in advocating shape their ability to do so.

Conclusion: ALC designations create additional uncertainty during an already vulnerable time. Caregivers play a critical role in meeting the care needs of patients during this time. The caregiver experience provides insight on healthcare system gaps, the importance of caregiver involvement within care teams and a need for tailored caregiver engagement strategies.

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Title: Understanding transitions of care in older adults with hip fractures: A qualitative multiple-case study in Ontario

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Transitions in care are a time of vulnerability for both patients and their families. Hip fractures are a leading causes of hospitalizations among older adults and result in an average of 3.5 care setting transitions. System performance for hip fracture care varies between health regions and requires further understanding of the contextual factors influencing care transitions, patient/caregiver experiences, and health and well-being outcomes.

Approach: A multiple-case study design was chosen to compare transitions in care for hip fractures in two contrasting health jurisdictions in Ontario. This study has an integrated knowledge translation learning health systems' approach with ongoing partnerships with system leaders in both health jurisdictions. Regions were selected based on recommendations by our system leader partners for variation in patient populations, system performance and geography. Qualitative interviews are being conducted with patients, their caregivers, clinicians and decision-makers in both jurisdictions. When possible, patients and caregivers are followed through their care journey by sequential interviews. Data collection will stop when theoretical saturation is achieved.

Results: Data collection started August 2018 and is anticipated to be complete by August 2019. To date, 31 interviews have been conducted: 20 with patients and caregivers and 11 with decision-makers and clinicians. Preliminary results suggest three main themes: 1) patient, caregiver and healthcare provider uncertainty; 2) disruptive nature of injury and sudden instability; and 3) caregiver involvement is critical but overlooked by system. Guided by a learning health systems approach, knowledge translation activities are ongoing through all stages of this study. The intention is to develop a holistic understanding of care transitions for patients with complex health and social needs and system-level factors contributing to these care journeys for health system improvement.

Conclusion: Participants in both jurisdictions experienced similar challenges; however, the barriers and enabling factors influencing optimal care transitions were unique to the local health system. This suggests that solutions and strategies to optimize transitions for these patients should be jurisdiction-specific at the individual, community and system levels.

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Title: Benefits realization of electronic medical records in outpatient settings: A systematic review

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Electronic Medical Records (EMR) are considered promising tools for healthcare improvement in primary care settings. Yet, evidence on EMR implementation success and benefits remain limited. This study addresses this area and presents a systematic review of the level and extent of impacts associated with EMR implementation in outpatient settings. Future research should focus on assessing the impacts related to areas in which evidence remains scarce and inconclusive while ensuring high rigour.

Approach: Following the PRISMA guidelines, a comprehensive search was conducted using five major databases including: Pubmed, Medline, CINAHL, Scopus and Web of Science. Groups of keywords covering four main areas were used in combination: (1) benefit (e.g. benefit realization), (2) technology (e.g. EMR), (3) process/setting (e.g. healthcare process), and (4) outpatient (e.g. outpatient). All qualitative and quantitative empirical studies published in English and reporting impacts related to EMR implementation were included. A coding scheme was developed to guide data extraction and synthesis from selected studies, and the level of evidence was assessed using Mrcog (2015) evaluation technique.

Results: A total of 27 studies were included in the review with low to moderate level of evidence. The benefits were classified across six dimensions: operational, managerial, strategic, IT infrastructure, organizational, and patient-level. Overall, 18 studies (67%) showed benefits associated with EMR implementation; the remaining studies reported either no-evidence or negative impacts. The majority of the studies (79%) focused on the operational, managerial and organizational dimensions; four reported significant improvement in productivity and few indicated significant positive impacts on work and business efficiencies. Yet, surprisingly, inconclusive evidence (i.e. no evidence or negative impacts) was observed on these three dimensions by 30% of the studies. Minimal impacts were reported at the strategic and IT infrastructure levels, but improvements were observed in relation to communication with patients.

Conclusion: The impacts associated with EMR implementation in outpatient settings were mostly positive at several levels, but the rigour of the studies was not optimal, and a considerable number reported no-evidence or negative impacts. There was variation in methodological approaches and quality between studies.

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ID: 211

Author: Lisa Lachance

Title: Creating a national standard for post-secondary mental health policies and services

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

The Mental Health Commission of Canada is embarking on a two-year project to develop a National Standard on Psychological Health and Safety for post-secondary students. Like the Standard developed for the workplace, it will act as a voluntary guideline to help Canada's academic institutions promote and support students' psychological health and safety, and support students' success.

As one of the project key steps, a literature review was undertaken by Dr. Heather Stuart and her team at Queen's University. This work shares information on emerging and promising practices related to psychological health and safety of post-secondary students. A summary is available and you can access the full report by sending an email to studentstandard@mentalhealthcommission.ca

Background and Objectives: Wisdom2Action is working with the MHCC to undertake consultations on the development of a national standard for mental health for post-secondary students.

Approach: As noted, this presentation can review the consultation process to date.

Results: This presentation would not be able to provide results at this stage but would be

Conclusion: This presentation would be of interest to CAHSPR participants both as stakeholders in PSE institutions but also the innovative nature of this project in terms of developing a standard.

All Authors: Lisa Lachance

ID: 357

Author: Shauna MacEachern

Title: Integrated Youth Service Hubs - Co-developing Hubs with Youth for Youth

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Youth Wellness Hubs Ontario aims to improve access and service standards for young people through integrated youth mental health and substance use services. These hubs will be places where young people aged 12-25 years can receive walk-in access to high-quality, integrated, “one-stop-shop” mental health and substance use services, as well as other health, social, and employment supports.

Approach: Integral to the YWHO integrated model of youth care is a commitment to youth and family engagement, and their involvement in key decisions – from planning to implementation and program evaluation. By actively involving youth and family members, YWHO will better understand what works, what doesn’t, and why – leading to improved outcomes, enhanced youth ownership, and responsiveness to the changing needs of youth.

Results: YWHO aims to be as comprehensive as possible in order to demonstrate the overall appropriateness and effectiveness of the integrated stepped care model for youth in Ontario. Therefore, it will include measurements of youth and family member perceptions of services, functional outcomes for youth, as well as service and health system impacts and population health outcomes. Evaluation will also be done throughout the planning and implementation process, to assess youth and family engagement with YWHO, and to monitor the fidelity of the care model and interventions being implemented at each site. To ensure comparability, and as per the collective impact approach, the youth hub sites will develop and use common or shared measurement system/evaluation approaches while still reflecting the needs of the local community.

Conclusion: Youth Wellness Hubs Ontario is poised to respond to longstanding and persistent calls to improve how youth and their families access and move among services as well as the quality of those services.

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Author: Heather McNeil

Title: Understanding H.O.P.E. through complexity: A Developmental Evaluation of a holistic model of community care

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: A health system is a complex network of organizations, programs, and people who aim to promote, restore or maintain health. In response to this complexity, there is growing recognition of the relevance of complexity theory to understand health system functioning, and to guide health care research and evaluation. We apply this approach to our testing of the H.O.P.E. Model, a holistic model of community care that leverages technology while maintaining compassionate care.

Approach: Within a Developmental Evaluation approach (Patton, 2010) overall data collection and analysis follows a mixed methods design guided by the Participatory Research to Action Framework (Reference removed for blind review). This design allows for the use of multiple data sources, collected in an ongoing iterative process and the meaningful engagement of stakeholders throughout. In collaboration with these stakeholders we have designed a developmental evaluation to generate the evidence body for the H.O.P.E. model which embeds rapid cycles of evaluation to enable real-time iteration and test which elements are critical to the implementation of the model to get desired co-designed outcomes.

Results: Within a Developmental Evaluation approach data collection is ongoing and iterative, continually feeding into design processes. The researchers engaged in developmental evaluation play multiple roles, acting as expert advisors in the design processes, providing critical feedback on progress, and acting as 'guardians' of the principles which are meant to be adhered to. This presentation will report on our experiences of using participatory action methods within a developmental evaluation framework, highlighting the challenges and opportunities inherent when a research team plays multiple roles in a constantly evolving process.

Conclusion: Developmental evaluation has different aims to traditional impact or process evaluations. Our experience with developmental evaluation has been informative, at times challenging, and influential on the outcomes of the H.O.P.E model. Results will be of interest to stakeholders across the healthcare system challenged by the complexities inherent in their work.

All Authors: Heather McNeil, Paul Holyoke, Margaret Saari , Courtney Shaw

ID: 102

Author: Candice Pollack

Title: Knowledge Translation & Policy Innovation: How Policy Education Programming Can Foster Innovation in Healthcare for the Aging

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: The mandate of the AGE-WELL National Innovation Hub APPTA is to support governments in finding innovative solutions to the policy challenges of an aging population by reducing the knowledge translation gap from research to implementation. Beyond our in-house policy solutions services, APPTA works to foster the capacity for innovation by providing KT development opportunities for health services research trainees that focuses on enhancing their abilities to inform the policy development process.

Approach: AGE-WELL and APPTA have partnered to develop innovative policy education programming for research trainees that enhances their communication skills and introduces them to government policy processes and includes:

1. A policy challenge, where trainees are invited to answer policy questions through a collaborative six-month process that culminates in a presentation to Canadian government stakeholders.
2. A policy internship, where students are mentored through the process of conducting a literature review and jurisdictional scan, and preparing a policy brief for government stakeholders.
3. An e-learning series, where trainees are given the tools needed to communicate their research to a government audience.

Results: Each of these programs are in their pilot phase and qualitative evaluations are being conducted in an ongoing manner using qualitative and quantitative metrics. However, our anticipated results include:

- An increase in communication skills among research trainees;
- A better understanding of the policy development process and an ability to identify the appropriate time and place for evidence-based interventions;
- The development of new partnerships between researchers, healthcare services providers, and policy-makers that support better evidence-informed decision-making; and
- The identification of new policy options that can address some of the complex challenges facing Canada's aging population.

Conclusion: These programs aim to build KT skills and preliminary results indicate that participants are gaining positive experiences. The APPTA Hub will continue to develop programming that drives an environment of innovation by training the future leaders in research and policy on how to form effective partnerships for evidence-informed decision-making.

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Author: Laura Rashleigh

Title: Developing a Novel Tool to Enable Acuity Based Staffing in Critical Care

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Healthcare leaders require evidence-based tools to inform nursing workforce and operational decisions. Currently within Critical Care, there is a paucity of validated tools to support decisions. To address this, a large academic acute care centre with 83 Critical Care beds developed a Critical Care Patient Needs Assessment Tool to identify patient to nurse ratios based on acuity. The tool underwent validation across all Critical Care units (levels 1 to 3) and the Emergency Department.

Approach: An environmental scan and literature review for predictive staffing methodologies was completed. An assessment tool was developed through a modified Delphi approach integrating assignment guidelines, predictive staffing and Synergy Model elements. Nine core components were identified to influence acuity. Inter/intra-rater reliability and face validity was verified with experts.

A nine week validation study across nine Critical Care units and the Emergency Department was completed for a total of 3290 assessments. Three experienced Critical Care nurses ensured consistent application across patient populations. Additional data collected included level of care, actual nurse ratio, expert identified ratio, and demographics.

Results: The tool was found to be valid across all Critical Care areas and surge spaces. A Spearman correlation was run to assess the relationship between tool-derived ratio and expert clinician assessed nurse to patient ratio; a strong positive correlation found between both ($r_s=0.78$ $p<0.0001$). The tool was identified to be generally more conservative in identification of nursing ratios (5-33%), as compared to expert judgement.

Three key tool components were assessed using logistic regression (stability, complexity and predictability) with all components identified to contribute evenly to overall tool-derived scores.

Additionally, Kendall's Coefficient was used to evaluate interrater reliability across the assessment period; results were 0.92, $p<0.0001$, indicating strong correlation between clinically judged nurse to patient ratios across all three expert raters.

Conclusion: The tool is now being used to evaluate workforce and identify efficient models to meet demand for Critical Care beds. Future application includes daily predictive Critical Care staffing across the different levels of care and treatments spaces. Further analysis based on patient specific population data is underway.

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Author: Jennifer Rayner

Title: Advancing Access to Team-Based Care in Ontario

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Advancing Access to Team-based Care (AA-TBC) is an integrated, collaboration model that facilitates equitable access to interprofessional teams for non-team physicians. Using the lessons learned from implementation science, the Alliance for Healthier Communities is working with a team from the University of Toronto to ensure sustainable scale and spread. This project is being guided by evidence and includes the use of facilitators, the benefit of co-design, and a robust evaluation to identify facilitators and barriers.

Approach: Through a facilitator, team-based practices identify and recruit non-team physicians. Physicians are engaged in the design of referral and communication processes to best suit their practice needs. Interprofessional teams re-organize through continual quality improvement to expand their service capacity to accommodate increasing numbers of patients referred by physicians. The physicians remain the primary care provider and patients have access to the full range of non-primary care services and programs offered at the team-based practice setting. This is not a referral or consultation model but represents authentic interprofessional shared care and integration of care, supporting access to allied health professionals.

Results: To-date over 36 organizations (34 CHCs + 2 FHTs) have expanded access to team-based care to over 1500 non-team physicians. Early evidence suggests that people receiving the services are pleased with the increased availability of services. Every participating organization committed to providing team-based care to at least 200 clients with no additional resources and this is being surpassed. Physician and client feedback has been positive.

Conclusion: Enabled by extensive and collaborative facilitated outreach with solo physicians, this program will improve non-team physician's engagement and satisfaction with the health system. Improved access to team-based care services will improve patient experience and health outcomes. We are engaging in rigorous and ongoing evaluation throughout the program.

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ID: 300

Author: Tara Sampalli

Title: Policy and program innovations in patient-centred team-based primary healthcare for people with multimorbidity: A four province comparative case study

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Multimorbidity (MM), the co-existence of two or more chronic disease is a priority issue for policy makers and providers across Canada due to high impacts on affected individuals and health system. Team-based primary health care is seen as an important strategy to improve outcomes for MM. In a cross-provincial comparative study, the primary objective is to learn from innovative team-based care approaches that can help inform better policies and redesign of service delivery.

Approach: We will use a comparative case study with embedded units design. With Nova Scotia, Newfoundland, Ontario and Quebec as the cases, the embedded units are interprofessional primary health care teams that offer programs for patients with MM. Through analysis of primary (NS and NL) and secondary (ON and QC) data, we will compare innovations in the four provinces. The research process includes an environmental scan to identify current innovations, LEAN approaches to describe the innovative processes, interviews and a survey with patients and providers, and the creation of patient-centered knowledge translation tools and platforms about promising approaches.

Results: Building on the Patient-Centred Innovations for Persons with Multimorbidity (PACE in MM) framework, we will better characterise what PHC programs for MM currently being offered to those with MM. Using the Consolidated Framework for Implementation Research (CFIR) framework we will inform our understanding of how programs for patients with MM are currently being implemented, and potentially identify barriers and facilitators to the implementation and scaling up of programs. The proposed study will 1) Catalyze opportunities to learn from and generate spread of the PACE in MM framework; 2) Enable knowledge users to support and further develop promising MM programs; 3) Inform care management needs of patients with MM with additional vulnerabilities, such as rural and newcomer populations.

Conclusion: Through engaging patients with MM and PHC teams in the study, we hope to contribute to collaborative co-design of new, and refinement of existing, programs and policies to improve patient-centered care and health outcomes. Potential outcomes to the health system include reduced usage of emergency and unnecessary services.

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ID: 372

Author: Tara Sampalli

Title: Partnering with Patients and Families in Program Planning and Service Delivery in Primary Health Care: An implementation science approach to evaluating integration of policy to practice

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: A system-level strategy to partnering with patients and families in decision-making, policy setting and program planning processes is being implemented provincially in Primary Health Care as triple aim strategy and Accreditation standard. An implementation science approach is being applied to understanding key influencers, barriers and facilitators to implementing this strategy.

Approach: The Consolidated Framework for Implementation Research (CFIR), CIHR Strategy for Patient-Oriented Research Patient Engagement Framework (CIHR SPOR PEF) and a descriptive qualitative approach are guiding the evaluation of the implementation strategy in Primary Health Care. Patients and Families are being recruited to Quality and Safety Councils / Teams to work alongside of decision makers and providers to influence planning of PHC service delivery. A thematic data analysis plan that includes both inductive (reading transcripts and discussing key concepts) and deductive (CFIR and CIHR PEF constructs mapped) coding is being applied to understand key ingredients for successful implementation and scaling up.

Results: Preliminary analysis through the CFIR approach have helped us understand evolving components and structure of this implementation strategy including facilitators and barriers. The number, timing of introduction of patients and families and composition of team members, and recruitment and retention strategies vary in each of the management zones. Recruitment and retention strategies are also varied driven by contextual factors and drivers. There are over 30 patient and family advisors currently recruited through this strategy. Emerging themes for facilitators includes striving to develop a productive partnerships, common focussed goals & expectations, and accreditation requirements. Examples of barriers identified include lack of clarity in roles and level of influence, lack of integration between broader components of care delivery limits influence of councils to one sector (PHC).

Conclusion: The strategy for partnering with patients and families in PHC although in early days of implementation is already positively impacting and influencing several planning and service delivery decisions.. The application of a CFIR methodology to understanding and evaluating this priority implementation strategy in PHC has been insightful and effective.

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ID: 404

Author: Courtney Shaw

Title: Optimizing the transition from hospital to community through reactivation programs

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: The healthcare system is facing unprecedented challenges in ensuring older adults receive the right care, in the right place, at the right time. Gaps in health and social services have led to patients experiencing prolonged hospitalizations and delayed discharges which has negative patient and system outcomes. To facilitate successful hospital to community transitions SE Health and hospital partners established community-based reactivation programs. In this session, we present learnings gained through realist evaluation of three programs

Approach: Using a mixed methods design, realist evaluation was undertaken to understand the population, processes and outcomes of three reactivation programs implemented by SE Health in the Greater Toronto Area. Clients' demographics, clinical profile and outcomes were collected using standardized measures at admission and 30 days following discharge. Systems mapping using a human factors framework was undertaken to describe the processes and activities of 'reactivation' and explore the potential causal relationships between social and technical aspects of the program. These systems maps were complimented by interview and focus group data from clients and providers to explore their experiences of the program.

Results: Across all programs clients received support from nursing, physical therapy, occupational therapy, and personal support workers. This was complimented by opportunities for involvement in social and life skills activities such as cooking classes. Significant differences in patient populations were observed between the three sites, including variation in sociodemographic and clinical profile, and reason for being designated as needing an alternative level of care. Preliminary results indicate the requirement to adjust programming and services for success. All programs adapted overtime to meet client needs and work towards improving likelihood of successful reactivation. To assist with personalization of care, we facilitated the co-design of a care planning process with standardized assessment, focus on client-directed goals, shared decision-making and common data collection which should support continuous.

Conclusion: Community reactivation programs can support transitions from hospital to community and reduce pressures on hospitals by relocating and reactivating patients needing an alternative level of care. Keys to success are care planning utilizing standardized assessment, client-directed goals, and interdisciplinary teams working in a collaborative, patient centered way

All Authors: Courtney Shaw , Paul Holyoke, Margaret Saari , Heather McNeil

ID: 408

Author: Courtney Shaw

Title: Use of Human Factors-informed systems engineering to design care programs for clients with complex needs

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: As health care systems and patient profiles grow increasingly complex, design processes used to create programs of care must be refined to respond. Human Factors-informed systems engineering is one approach which can support design or redesign of care processes to improve safety and increase likelihood of positive outcomes. This presentation will explore how we used this approach to support the co-design of care planning in a community reactivation program.

Approach: The Systems Engineering Initiative for Patient Safety (SEIPS) model is a human factors model which guides investigation of the interactions between social and technical elements of complex systems. The SEIPS model considers the work system (including environment, technology, people, tasks and organization), care processes (technical and interactional) patient, provider and system outcomes, and hypothesizes about potential causal relationships within the model. Researchers created a site specific SEIPS model through multiple sessions of non-participant and participant observation and key informant interviews with staff.

Results: The resulting SEIPS model was used to redesign the care planning process in the reactivation centre. Due to the comprehensive nature of the model, the design team was able to understand the impact of the various elements of the work system on the care planning process. They were able to use these insights to design a new process which streamlined processes at the local level, leveraged available resource to maximum potential, avoided duplication of effort, and supported improved patient and system outcomes. The new processes were acceptable to care providers at the site as they minimized disruption to the system and delivered improved patient and system outcomes.

Conclusion: Though traditionally used specifically for patient safety initiatives, SEIPS modelling can provide a useful framework for program design for patients who have complex needs. Developing an understanding of the various constituent components of a complex socio-technical healthcare system and the relationships between components can maximize opportunity for success.

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ID: 416

Author: Courtney Shaw

Title: Using the Participatory Research to Action Framework to integrate perspectives of seldom heard groups

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: There is a desire across the health care system to better engage patients and caregivers. As researchers and service designers adapt to this, methods of co-design, engagement, and participatory research have become more commonly implemented. While intentions have been well meaning, this evolution has presented challenges including the engagement of seldom heard voices. To address this we present our work with cultural diversity groups, people living with dementia and their caregivers, and indigenous populations.

Approach: Evolved through our work in the SE Research Centre collaborating with multiple diverse stakeholders, the Participatory Research to Action (PR2A) Framework (SE Research Centre, 2018) combines the creativity of human-centred design and the rigour of scientific research. We use this 6 phase framework working in partnership with stakeholders throughout. This presentation will highlight learnings from traditionally underrepresented groups in health services research: i) linguistic and culturally diverse populations, ii) persons living with dementia and their caregivers, iii) Indigenous people, and iv) homeless and marginalized peoples

Results: We present learnings on how our engagement with diverse stakeholders sheds learnings on our methodology, impacting the PR2A frameworks which continues to evolve as we learn through co-design with groups in a wide variety of projects. Our work has revealed important considerations when co-designing with these seldom heard perspectives including: openness and flexibility of researchers, timing and research planning; establishing relationships with advocates for the community; and the development of researcher skills such as self-reflection, transparency, and respect. We also share examples of how research outcomes have benefitted from the voices of those who are not typically engaged.

Conclusion: Our goal is to meaningfully engage with stakeholders representing all of the voices of Canada to continue to co-develop the PR2A framework in order to achieve a seamless cycle of problem finding to research to innovation and action that prioritizes lived experience and creates measurable, replicable impact for all Canadians

All Authors: Courtney Shaw , Heather McNeil, Paul Holyoke, Margaret Saari

ID: 369

Author: Hilary Short

Title: Evaluation of routinely Measured PATient reported outcomes in Hemodialysis care (EMPATHY): Implementing a cluster randomized controlled trial at the health system level

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Advanced chronic kidney disease requiring dialysis is associated with poor health outcomes and quality of life. Patient-reported outcome measures (PROMs) capture patients' experiences of symptoms and the functional impact of disease, which can support clinicians in monitoring disease progression and facilitate patient-centered care. The EMPATHY trial will evaluate the impact of routinely measuring and reporting PROMs on patient-reported experience, clinical outcomes, and healthcare utilization.

Approach: The EMPATHY trial is a pragmatic, multi-centre, cluster randomized trial being implemented in the Northern and Southern Alberta Renal Programs (NARP/SARP) and the Ontario Renal Network (ORN). The trial is evaluating a disease-specific (Edmonton Symptom Assessment System Revised – Renal) and a generic (EQ-5D-5L) PROM. In-centre hemodialysis units are randomized to one of four groups: 1) ESAS-r; 2) EQ-5D; 3) ESAS-r and EQ-5D; 4) usual care. Patients' PROMs are assessed bimonthly in groups 1, 2, and 3. All groups have access to standardized treatment aids for clinicians, providing information on symptoms management. The main outcome of this study is patient-provider.

Results: NARP began implementing EMPATHY in September 2018. Implementation in SARP and ORN will begin in 2019. To date, 17 dialysis units, including nearly 900 patients, in NARP have been enrolled: 5 units are hospital-based in urban areas and 12 are community-based units in rural areas. A total of 20 in-services were provided to train nurses on the EMPATHY protocol and nephrologists were informed of the trial through a distributed information sheet and an education session. Each unit appointed one nurse to be an EMPATHY site lead to champion the trial and act as a liaison between the unit and the research team. Study outcomes are being collected by various surveys measuring patient-provider communication, patient experience, symptom burden, quality of life, depression and anxiety.

Conclusion: Incorporating PROMs into clinical practice seems an appropriate strategy to engage patients in decisions regarding their care and outcomes. However, this approach requires a substantial reallocation of healthcare resources. The EMPATHY trial will rigorously evaluate such interventions and investments to ensure they provide value for patients and health systems.

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ID: 320

Author: Meaghan Sim

Title: Contributing to positive impact for the health of Nova Scotians: Nova Scotia Health Authority's Population Health Policy Framework

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: The fundamental goal of contemporary health systems is to improve health outcomes within the population. Evidence supports that health system performance and sustainability are optimized when systems are oriented in support of population health. Nova Scotia is facing significant health challenges coupled with observable health inequities. Therefore, the provincial health services and delivery system (Nova Scotia Health Authority) has a critical opportunity to make a positive impact for the populations served by this organization.

Approach: We will present the population health policy framework for NSHA that serves as a practical roadmap to align the people, practices and policies of the organization with actions that can realize population health focus and improvement. Leading and emerging evidence and the NSHA context were all considered in its development. We will outline the system-level direction that NSHA is taking and activities underway to operationalize the framework and study its implementation. This is a core impact project of the Canadian Institutes of Health Research's Health System Impact Fellowship jointly located between NSHA and Dalhousie University (2017-20).

Results: Through explicitly articulating how population health will be stewarded within NSHA, the policy framework aims to augment the profile of population health across the organization and support its infiltration into clinical, administrative and governance components of the NSHA. The study of the implementation of this framework will contribute new learning to a growing body of evidence that will be of interest to health system stakeholders across the country and beyond and will also inform the final population health plan for NSHA. Full implementation of the framework will support NSHA in achieving its vision of "healthy people, healthy communities – for generations."

Conclusion: The development, implementation and study of NSHA's population health policy framework provides an exemplar case for how early-stage embedded researchers are supporting modern-day health system innovation and transformation in support of population health, health system performance and sustainability and directly links to CAHSPR 2019's theme of "when research meets policy."

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Author: Aynharan Sinnarajah

Title: Development and Evaluation of an Innovative Model for Augmenting Home Care Services for Palliative Clients in Rural Communities

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Significant inequities exist between the availability of home care services in urban and rural sectors in Alberta. Access to services to support palliative care clients to remain at home is challenging in rural communities. Barriers include limited access to private healthcare vendors, geography, and fluctuating palliative needs that make it difficult to ensure adequate home care staffing. The objective was to increase supports for rural palliative clients to remain at home near end of life.

Approach: The Rural Palliative Care In-Home Funding Program was launched in October 2017. It enables rural clients with palliative conditions to stay at home when they require additional care beyond existing services. In collaboration with clients and families, rural home care and palliative consult teams authorize the amount and level of additional care required. Clients/families contract care providers and are supported in navigating the streamlined contracting and payment processes. The program model empowers clients and families to recruit and self-direct their care providers, who can include local trusted individuals, which is an important consideration in many rural communities.

Results: From Oct 2017 to Dec 2018, 85 rural clients have been authorized to access this funding. 56 clients have accessed funding with a total of 350 days supported at an average of 6 days per client. 77% of clients have had cancer. Of the 53 patients who have died, median survival from date of initial funding access was 19 days. 49 patients have died in the community (home or hospice). The majority of the funds (70%) was spent on home care aides with 13% spent on nursing support.

Conclusion: The Rural Palliative Care In-Home Funding program has demonstrated success in providing a client/family centered approach to allowing patients to stay at home near end of life. The results of this program are now being used to advocate for spread to rest of Alberta.

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ID: 492

Author: Susan Stevens

Title: How Approaches to Care Shape the Pathways of Older Adult Home Care Clients

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Home care services are a priority in Nova Scotia. Recent policy and practice changes to long term admission aim to exhaust community options first before seeking facility based care. These changes are attempting to transform the continuing care landscape and client/family experience in Nova Scotia. The objective of this presentation is to highlight the embedded research activities we have undertaken to assess the transformative nature of these policy shifts.

Approach: The Nova Scotia Health Authority (NSHA) and Winnipeg Regional Health Authority, have partnered with researchers and home care agencies, to understand how approaches to care shape client pathways of older adult home care clients with chronic and long term conditions through the home care system. Multiple methods are used including analysis of interRAI-HC client data and longitudinal qualitative care constellations involving clients and caregivers (informal and formal). In addition, a comprehensive policy analysis is being conducted. Changes in service providers, caregiver breakdown, levels of service, timing of assessments, and/or acute health episodes are being examined to understand client pathways.

Results: By understanding both the clinical profile of home care clients using the interRAI-HC data and analyzing the experiential data from clients, caregivers and care providers we will gain new understanding about what is truly individualized and family focused care and the sentinel events that impact decision making about remaining at home or seeking long term care placement. We also will be able to contextualize these findings based in policy uniqueness of home care organization and administration, different models of service delivery as well as cost and amount of service entitlement.

Conclusion: Our results will inform the continued transformation of Nova Scotia's continuing care system. Findings will play a critical role in the redevelopment of our case management approach to improve the quality of client/family experience both in the NSHA and through the 25 contracted agencies providing services to 30,000 individuals annually.

All Authors: Susan Stevens, Janice Keefe

ID: 499

Author: Kaitlyn Tate

Title: Academic trainees in the world of government: Reflections from Health System Impact Fellows embedded in regional, provincial and federal health organizations

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Collaborative projects between researchers and health system decision-makers have been identified as a potential means to enhance the application of research evidence in health system decision making. The CIHR Health System Impact (HSI) Fellowship is a unique experiential opportunity to embed PhD and Post-doctoral candidates in health system organizations across Canada. Six research fellows present their initial experiences of how they've contributed to the work of governmental health organizations at regional, provincial, and federal levels.

Approach: The HSI Fellowship provides a mutually beneficial experience for fellows to gain practical experience contributing to health system challenges, while partner organizations can draw on their research and analytical acumen. However, the fellowship is still in its infancy and experiences have varied widely across health system settings. This program supports diverse training experiences outside of traditional academic settings, and provides a framework for fellows to develop a range of competencies to enhance their professional and personal development. Our participation in this program supports an innovative approach to cultivate learning health systems across Canada and develop ourselves as health system leaders.

Results: From our shared experiences, we identified key learnings related to navigating competing priorities, supporting evidence informed decisions for complex policy issues, and the roles and potential of researchers in policy. Fellows can concentrate their attention on health system partner priority, providing capacity for robust analysis and interpretation to support an informed policy-making process despite arising issues. Fellows contribute their knowledge as content experts to address particular issues, and can support better linkage of data into meaningful information. Although adhering to the principles of linear, rational choice is not always possible in policy, fellows can provide critical analysis and appraisal skills needed to best utilize existing data sets and mitigate the effects of bias in expansive, and often expensive, health policy decisions.

Conclusion: The HSI Fellowship program enables decision-makers and fellows to develop shared appreciation of each other's responsibilities and expertise. Fellows are being equipped with the networks and skills to be leaders in learning health systems. Program key competencies help manage the tension between evidence informed decision-making and dynamic political environments.

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ID: 446

Author: Sidiqah Tseung

Title: Predictive Acuity Based Staffing for Acute Care in Canada

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: The Canadian Healthcare System is under pressure to create new, efficient, safe staffing models to provide quality care. To enable this transformation, healthcare organizations must be able to anticipate patients' needs while optimizing the scope of practice of health care providers. A large academic acute care centre aimed to develop a comprehensive nursing model assessment method sensitive to changing patient needs with the capacity to consider current workforce and local program/unit requirements.

Approach: In 2016, an evidence-informed Acuity Based Staffing assessment was implemented to ensure the appropriate number and skillmix of nurses on acute care units. Assessments were based on patient needs and triangulated against workload, workforce and quality data with consideration given to the unit environment. Daily patient acuity assessments across acute care units are now underway, in conjunction with the development of a dashboard to inform daily nurse staffing and skillmix. The collection of daily data supports predictive staff modeling and workforce planning. Furthermore, the acuity and dependency patient score supported the creation of an intensity based equitable nursing assignment strategy.

Results: Benefits from this transformative endeavor reverberate in all levels of the organization. A deeper understanding of patient acuity and need has lead to unit model transformations, including integration of intraprofessional nursing teams where appropriate. Transformation support was provided to maximize the utilization of staff, aid change and collaboration, and enable safe, exceptional practice at full scope. Nursing assignments are customized to specific skillsets with consideration of necessary work modification, which ultimately leads to improved staff and patient satisfaction. Standardized language has been implemented to describe patient acuity and dependency, providing tangible grounds for team leaders to create and explain equitable assignments. Regular comprehensive patient acuity data has allowed leadership to make timely, evidence-informed decisions and create savings for a more efficient and effective workforce.

Conclusion: The aim remains to have the right person, with the right skills, providing the right care, at the right time, in the right way to patients. Staffing models should be evaluated on a routine basis via standardize, evidenced-informed processes; this enables efficient, effective workforce planning and optimal patient care.

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Author: Michael Wall

Title: Trauma-Informed Program Evaluation and Research in Community and Health Services

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: In recent years, there has been a recognition that community and health-based organizations need to become more adept at understanding the impacts of trauma, and working with individuals who may have experienced traumatic event(s). To this end, trauma-informed practices have become an essential element in supporting clients accessing mental health and health-related programs and services. However, there has been little focus on how trauma-informed practice may be adopted and integrated into program evaluation and research.

Approach: Using a case study design, this presentation will outline the learnings gained from developing a trauma-informed program evaluation and research model within a Toronto-based children's mental health agency for the purposes of improving client-care and program evaluation processes and outcomes. There will be a focus on defining the core components of trauma-informed practice and how they have been integrated into program evaluation initiatives within the context of children's mental health. The presentation will also review how trauma-informed research may better support clients accessing services and the work of clinical service providers.

Results: Initial feedback surrounding the model and previous research literature have suggested that there are four main components to successfully implementing trauma-informed program evaluation and research, including: (1) Training of researchers and research assistants, (2) establishing meaningful collaborations with clients, clinicians, and administrative staff, (3) providing opportunities and choice within these collaborations, and (4) establishing a system of support for clients partaking in program evaluation initiatives. Each component will be presented with practical examples to display how organizations can work towards implementing a model of trauma-informed program evaluation and research. In addition, we will also be presenting the various challenges that were experienced upon implementing the model of program evaluation and how these challenges may be mitigated.

Conclusion: Trauma-informed practices are an essential aspect of ethical and collaborative program evaluation and research initiatives. This presentation will provide attendees with an increase awareness of trauma-informed practice principles, and how these principles have been applied to research and program evaluation initiatives in mental health and health-related services and organizations.

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Author: Robert Wilson

Title: Quality of Care NL/Choosing Wisely NL- A collaborative effort between the leading healthcare entities in Newfoundland and Labrador

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Quality of Care NL/Choosing Wisely NL (QCNL/CWNL) is a collaborative effort between the leading healthcare entities in Newfoundland and Labrador (NL) such as government, RHA's, associations of different healthcare providers and the NL Centre for Health Information. A Center of Health Information and Analytics was created to examine utilization data and the SPOR NL SUPPORT unit provided human resources to implement change which makes up the core infrastructure. As a research initiative, QCNL

Approach: QCNL/CWNL focuses on the delivery of the right treatment to right patient to the right time and the reduction of unnecessary tests, treatments and procedures. A total of 40 projects are in implementation/planning phase using the template: analyze baseline utilization of the intervention, compare to best practice, implement actions using best practice guidelines, evaluate the effects of these actions, and inform policy. Campaigns targeting clinicians have included: CME accredited presentations, emails which include practice points journal and peer comparison data, clinic visits, online modules, and information resources for patients. Campaigns for patients included videos, traditional media

Results: Campaigns such as antibiotic utilization and biochemical testing in general practice have shown a reduction of overall antibiotic prescriptions of 9%, and a reduction in blood urea, creatinine kinase and ferritin ordering by 62%, 31%, and 20% respectively from 2016 to 2017. Furthermore there has been a significant reduction in unnecessary pre-operative testing for low risk surgical procedures at two hospitals in St. John's NL. Further interventions being undertaken include the use of vascular testing with a focus on secondary stroke prevention, imaging for low back, Enhanced Recovery after Surgery (ERAS) program, and facility based reporting for institutional long-term care planning.

Conclusion: Implementation of QCNL/CWNL initiatives has been rapid. Interventions have successfully reduced unnecessary care and facilitated appropriate care at community and institutional levels. QCNL/CWNL continues to work to make better use of health care resources, enhance system quality, and improve health outcomes in the province.

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Author: Guosong Wu

Title: The incidence of falls and associated outcomes of patient admitted to Intensive Care Unit

Type of Abstract: Oral Presentation: Embedded Research & Future Initiatives (New)

Background and Objectives: Falls are the most common reported adverse events in hospital, resulting in disability, prolonged hospital stay and even death. Direct costs associated with falls in Canada are estimated at 2 billion dollars annually. An increased focus on early mobilization for critically ill patients admitted to the intensive care unit(ICU) has raised concerns about increased risk of falls. This research aims to determine the incidence of falls and its associated outcomes among patients admitted to ICU.

Approach: We will conduct a retrospective cohort study on ICU patients age 18 years and older in Alberta, Canada from Jan 1st, 2014 to June 30th, 2016. All patient falls voluntarily reported through the patient safety Reporting & Learning System (RLS) or documented in the electronic medical record (eCritical Alberta) will be identified. Validation of patient falls will be conducted through a review of the medical record by two independent auditors. Inter-rater agreement will be calculated. The incidence of falls and associated outcomes will be reported. Tools for fall assessment and strategies for fall prevention will be discussed.

Results: Based on preliminary RLS data, 126 patient falls were reported in Alberta adult ICU during 2016. The majority of patient falls (n=35, 27.8%) occurred to patients aged 45 to 64 years of age. Most falls (n=112, 88.9%) falls occurred in patient's room. 22.2% (28) of patients with a fall experienced harm. This study will utilize linked data to provide an in-detail description on ICU fall incidence rate per 1000 patient days, percentage of falls causing harm and percentage of patients with 2 or more falls. In ICU, visual impairments, the use of medication, delirium, early mobilization, restraint use might associate with patient falls. This research will consider above risk factors and compare the outcomes (Change of patient goal of care, length of stay, mortality) differences.

Conclusion: Patient falls are leading cause of injury and contribute to additional costs on healthcare system but totally preventable. Evidence generated from literature could be used to develop tools to prevent patient falls.

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Author: Sabina Abou Malham

Title: Analysis of change of the nurses' role within the advanced access model in primary health care.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Ensuring timely access through implementing the advanced access (AA) model of care has become of major interest worldwide and across Canada. While nurses' role for improving access in primary healthcare setting has been demonstrated, their role change within such innovative primary care model remains unexplored.

The objective of the study was to analyze nurses' roles change and deployment throughout the implementation of AA and to identify the factors facilitating or limiting this change.

Approach: We used a longitudinal qualitative approach nested within a multiple case study conducted in four early adopters of advanced access family medicine units (FMUs) in Quebec. We conducted semi-structured interviews with two types of nurses who were purposively selected; nurse practitioners (NPs) (n=6) and nurse clinicians (NCs) (n=6). They were interviewed twice in a 14-month period. Data were coded and analyzed using thematic analysis based on the scope of nursing practice of D'Amour et al. (2012), and the Niezen & Mathijssen Network Model (2014) to analyze the influence of the context on nursing roles changes and deployment.

Results: The NCs roles' change varied among practice settings. Only, in one FMU, their role was first expanded (e.g., pregnancy follow-up visits), but subsequently restricted following the introduction of the NPs.

In all FMUs, NPs were able to enact all competencies of their role, and to practice in open-access scheduling to improve timely access to primary care. Within a team-based approach, they assumed leadership in managing patients with acute and chronic diseases.

Barriers to NCs' practice in AA were: lack of understanding about how the NCs role interfaced with the NPs role; inadequate managerial support and insufficient human resources.

For the NPs role, major facilitators were: appreciation of the NP's capabilities to manage patients, and support of family physicians of the NPs expertise within the team.

Conclusion: Our findings suggest that health care organizations need to reexamine critically nurses' role boundaries within the AA model, and to provide the optimal professional and organizational contexts to support their role transformation. They show the need to align all team members in the change process to reduce waiting times.

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Author: Stephanie Aboueid

Title: What is known about the use of artificially-intelligent self-diagnosing digital platforms? A scoping review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Direct-to-consumer (DTC) self-diagnosing digital platforms are often promoted as a way to “empower” or “engage” patients in their own health and improve health outcomes. These computerized algorithms provide the user with a list of potential diagnoses based on the symptoms they input. There is, however, a suboptimal understanding on the literature surrounding the use of artificially-intelligent self-diagnosing digital platforms by patients and the lay public. This is worrisome given the DTC nature of this technology.

Approach: In this scoping review, we searched PubMed, Scopus, ACM, IEEE, Google Scholar, Open Grey, ProQuest Dissertations and Theses. The search strategy was developed and refined with the assistance of a librarian and consisted of three main concepts: 1) self-diagnosis, 2) digital platforms, 3) patients or public. Our search generated 2,536 articles from which 217 were duplicates. Following the Tricco et al. checklist, two researchers screened the titles and abstracts (n=2,316) and full texts (n=104) separately. A total of 20 articles were included for review and data were retrieved following a data charting form that was pre-tested by the research team.

Results: Included studies were mainly conducted in the US (n=9) or the UK (n=3). Among the articles, the themes were: accuracy or correspondence with a doctor’s diagnosis (n=7), commentaries (n=2), legal (n=3), sociological (n=2), user experience (n=2), theoretical (n=1), privacy and security (n=1), ethical (n=1), design (n=1). Individuals who do not have access to health care and perceive to have a stigmatizing condition are more likely to use this technology. The accuracy of this technology to provide a correct first diagnosis ranged between 30% and 70%. Factors influencing accuracy include the design of the online platform and demographics of the user. Regulation of this technology is lacking in most parts of the world; however, they are currently under development.

Conclusion: Self-diagnosing digital platforms may have the potential to improve accessibility in underserved areas and timely diagnosis; however, there remains a serious lack of knowledge surrounding its accuracy in diagnosing various illnesses and not all platforms are of equal quality. Extensive research is needed to inform policies and ensure clinical safety.

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Author: Sadia Ahmed

Title: Patient and Caregiver Experiences of Advanced Cancer Care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Palliative care is an approach that improves the quality of life of patients and families facing challenges associated with life-threatening illness. In Alberta, most people who received palliative care received it late. Late palliative care negatively impacts patient and caregiver experiences & decreases quality of life. This study aims to understand patient and caregiver experiences of advanced colorectal cancer care to inform development of an early palliative care pathway for patients with advanced colorectal cancer.

Approach: A qualitative study that is embedded within a larger program of research on the implementation of the Palliative Care Early and Systematic (PaCES – an Alberta-wide project aimed at developing and delivering an early and systematic palliative care pathway for advanced colorectal cancer (CRC) patients and their caregivers) 6 intervention. Semi-structured telephone interviews with patients living with advanced colorectal cancer and caregivers were conducted to explore their experiences with cancer care services received pre-intervention. Interviews were audio-recorded. Interviews were transcribed, and the data thematically analyzed supported by the qualitative analysis software, NVivo.

Results: A total of 15 patients and 7 caregivers were interviewed over the phone (9 from Calgary, 13 from Edmonton). There was a total of 6 main themes generated: 1. Meaning of Palliative Care. Most participants had a negative perception of the term palliative care; 2. Communication (3 main subthemes: communication of diagnosis, communication between patient and oncologist, communication amongst providers); 3. Relationship with healthcare providers (including oncologist, family doctor, and nurses); 4. Access to care (cost of care, proximity to care, after hours care); 5. Patient readiness for advance care planning; 6. Patient and family engagement in care, with mixed experiences in how patients were involved in their care.

Conclusion: Most participants misperceived palliative care to mean ‘end of life care’, suggesting a need for improvement in the way palliative care information is delivered to patients and caregivers. Understanding the care experiences of patients and caregivers will inform the development of a care pathway for early palliative care.

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Author: Sara Allin

Title: Improving medication management in team-based primary care: a comparative policy analysis of Ontario and Quebec

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The health and economic impacts of polypharmacy and inappropriate prescribing have been recognized internationally. Provincial governments have undertaken significant, and varied, reform efforts to strengthen medication management, including by expanding the role of pharmacists in the community and in some cases integrating pharmacists into physician-led primary care teams. This policy analysis compares the ways in which governments have pursued primary care reform, focusing on medication management, from 2004-2018 in Ontario and Quebec.

Approach: We undertook an environmental scan of policies, regulations, legislation, strategies and frameworks relevant to medication management and multidisciplinary primary care in Ontario and Quebec. We conducted an online search using keywords related to primary care, medications, seniors, and team-based care. We searched provincial government and legislature websites, provincial archives, provincial ministries of health, and professional associations. We created a synoptic table describing the policies' objectives, components (e.g., regulations, strategies, guidelines) and situated them within a temporal framework. These results were validated through expert consultation, including physician, pharmacist, and representatives of both a professional association and provincial government.

Results: The policies used to strengthen medication management in primary care and to facilitate collaboration between pharmacists and family doctors in both provinces shared some common features. These included contractual agreements and financial incentives for physicians to work in a team and regulatory changes to expand nurses' and pharmacists' scope of practice. Both provinces also invested in new and expanded information technology systems, which aimed to strengthen communication across health professionals, to monitor and manage medications, and to report medication errors. There were also some notable differences. In Ontario pharmacists were included in primary care teams much earlier than in Quebec, and primary care quality improvement programs supporting medication management were used more extensively in Ontario than in Quebec.

Conclusion: In the context of major primary care reform to introduce and expand team-based care in the two provinces, there has been some attention paid to improving the management of medications for seniors. The impact of these reforms on health system and patient outcomes are the subject of research currently underway.

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Title: On defining 'actionable' high-cost health care use: Results using the Canadian Institute for Health Information Population Grouping Methodology

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Background: A small proportion of the population consumes the majority of healthcare resources. High-cost health care users are a heterogeneous group. We aim to use a population segmentation method to provide actionable information on high-cost healthcare use at a provincial-level.

Approach: Methods: The Canadian Institute for Health Information (CIHI) Population Grouping methodology was used to define mutually exclusive and clinically relevant groups, including health system non-users. High-cost users (≥ 90 th percentile of healthcare spending) were defined both in the general provincial population, and, within specific health profile groups. Following univariate and bivariate analyses, multivariable logistic regression models of risk factors associated with high-cost use were constructed.

Results: Results are complete; however, as per the Master Data Sharing Agreement between the Saskatchewan Ministry of Health and the Saskatchewan Health Quality Council, we cannot provide details of results until the requisite Ministry of Health review period is concluded (approximately end of February 2019).

Conclusion: Interpretation: Model results point to specific, actionable information within clinically meaningful subgroups to reduce high-cost health care use. Population segmentation methods, and more specifically, the CIHI Population Grouping Methodology, provide specificity and actionable information to inform interventions aimed at reducing healthcare costs.

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Author: Yukiko Asada

Title: Fairness Dialogues: Engaging the public in “easy to understand but difficult to answer” health equity questions

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The question “What do people think?” drives many health policy public engagement efforts. Posing this question is particularly meaningful for value-related issues. We explored how the public engages in a reflective process to examine health equity by focusing on the issue of citizens’ responsibility for health.

Approach: This study consisted of two 1.5-2-hour group dialogues and post-dialogue individual telephone interviews in Nova Scotia. We used the Fairness Dialogues, an approach to deliberating health equity through a facilitated group dialogue using a scenario in a fictional town called Troutville. The scenario described four hypothetical health inequality cases in Troutville: between criminals and non-criminals; extreme sport lovers and non-extreme sport lovers; firefighters and non-firefighters; and veterans and non-veterans. The facilitated discussions were centred around fairness judgments of these inequalities, personal and societal responsibility, and health care allocation. We conducted a thematic analysis of the group dialogue and interview data.

Results: Fifteen participants were diverse in terms of age and socio-demographics. The participants in the two focus groups voiced various arguments regarding unfairness of the four inequalities, including personal responsibility (the person made a choice and is responsible for the consequence); societal responsibility (society failed to help the person); and fulfillment (the person had his/her own aspiration and pursued it). They held diverse and nuanced views on the concept of personal choice, and even those who believed individuals have a personal responsibility for health strongly supported the principle of equal health care for equal health care need. They viewed the Troutville scenario and questions as “easy to understand but difficult to answer” and the facilitator-guided group dialogue as engaging.

Conclusion: The public is eager to discuss complex health equity issues if clearly presented in a relatable manner. Fairness Dialogues is a promising approach to engaging lay persons in complex health equity discussion and developing their capacity for it.

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Title: Economic Evaluations of Vision Screening Interventions for Children: A Systematic Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The Child Visual Health and Vision Screening Protocol was developed in 2018 to inform the creation of school-based vision-screening programs in Ontario. Evidence for the cost-effectiveness of such interventions compared to standard care are important for resource-allocation but are lacking in Canada. Study objective is to review the literature on economic evaluations of vision-screening interventions for children. Results will inform the design of an economic evaluation of vision-screening interventions in Ontario.

Approach: Electronic databases, grey literature and health technology assessment websites were employed in the structured search validated with search filters from the InterTASC Information Specialists' Sub-Group and the Peer Review of Electronic Search Strategy checklist. Included studies: (1) used cost-utility analysis (CUA), cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), or cost-analysis (CA) methods, (2) used interventions targeting children under six years of age and designed to detect amblyopia and/or uncorrected refractive errors, (3) compared interventions to alternative screening interventions, no screening or a usual care strategy, and (4) were published after 2002. Study quality was assessed with the Pediatric Quality Appraisal Questionnaire.

Results: Nine of 671 publications were included, published from 2003-2012 in Germany (n=2), UK (n=1), Sweden (n=1), Canada (n=1) and USA (n=4). Societal (n=3), third-party payer (n=4) and a combination (n=1) of cost perspectives were employed. Analytical techniques included CUA/CEA combination (n=3), CEA (n=3), CUA (n=1), CBA (n=1) and CA (n=1). CUAs made assumptions of health utility and quality-adjusted life years using expert opinion or values from other studies. Study conclusions were most sensitive to the disutility of unilateral vision impairment (n=3) and the prevalence of the target condition (n=2). Highest scoring domains of the PQAQ were discounting (mean=0.86, SD=0.5), target population (mean=0.81, SD=0.27), and economic evaluation (mean=0.78, SD=0.34); lowest were: incremental analysis (mean=0.52, SD=0.50), costs and resource use (mean=0.44, SD=0.22), and analysis (mean=0.41, SD=0.22).

Conclusion: Significant variability exists in the quality of methods employed by published economic evaluations. Prospective studies on the impact of amblyopia and/or refractive errors on the health-related quality of life of young children are required to better inform the conduct of CUAs.

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ID: 309

Author: Richard Audas

Title: How Universal Are Universal Pre-School Screens? Evidence from New Zealand

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Early identification of children who are falling short of key developmental milestones is an important public health initiative. Pre-school health checks are used throughout the developed world to identify children that are at-risk and offer interventions to remediate these, which should narrow the gap. However, despite these screens being universally available, uptake is generally less than 100%. We examine whether non-participation can be predicted using demographic and socioeconomic variables.

Approach: In New Zealand, children are requested to participate in the B4 School Check (B4SC) – a wide ranging pre-school health and developmental screen after their fourth birthday. Using the Statistics New Zealand Integrated Data Infrastructure – a whole of population, whole of government database - we construct a population denominator that allows us to determine the resident population at any given point in time. By linking participants to the appropriate population denominator, we can determine who did, and did not participate in the B4SC. This can be linked to a wide range of variables.

Results: We found that participation rates varied for each component of the B4 School Check (in 2014/15 91.8% for Vision and Hearing tests (VHT), 87.2% for nurse checks (including height, weight, oral health, SDQ, PEDS) and 62.1% for Teacher SDQ (SDQT)), but participation rates for all components increased over time.

While overall participation in the B4SC is over 90%, there are significant predictors of non-participation. We find that children who identify as Māori or Pasifika, children from socioeconomically deprived areas, with younger mothers, from rented homes, residing in larger households, with worse health status, and with higher rates of residential mobility were less likely to participate in the B4 School Check than other children.

Conclusion: The patterns of non-participation suggest a reinforcing of existing disparities, whereby the children most in need are not getting the services they require. There needs to be an increased effort by public health organizations, community and family to ensure that all children are tested and screened.

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Title: Predicting The Onset of Mental Health Conditions In Children – Evidence from New Zealand

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Young children with mental health conditions have better outcomes if they are diagnosed early and interventions are put in place. In New Zealand children participate the B4 School Check (B4SC) prior to entering school. We are interested in determining if data captured in the B4SC, including the Strengths and Difficulties Questionnaire (SDQ) and the Parental Evaluation of Developmental Status (PEDS) offer sufficient predictive power to be an effective screen.

Approach: Using the Statistics New Zealand Integrated Data Infrastructure (IDI) – a whole of population, whole of government database – we identify youth with mental health conditions using a variety of data sources, including hospital discharge data, pharmaceutical data and community mental health data. We subsequently link this to B4SC and demographic data captured in the IDI. We then use these data to model the onset of any mental health condition as well as any disruptive behavior disorder (e.g. ADHD, conduct disorders, and oppositional defiance disorders) using time-to-event analysis.

Results: Time-to-event analysis revealed that all considered demographic variables (gender, ethnicity, socio-economic status, and urban/rural) as well as several health-related measures (SDQ, PEDS, and weight) were significantly related to the onset of mental health problems. The full models demonstrated ‘strong’ predictive power for population screening purposes (Harrell’s C-statistic > 0.8). Sub-group analysis reveals key differences in predictive ability across demographic and socioeconomic sub-populations.

Conclusion: Mental health conditions can be identified using B4SC data with a high degree of sensitivity and specificity. We advocate that referrals to appropriate child development specialists be arranged based on a child’s PEDS and SDQ results. We encourage other jurisdictions to utilize these validated tools.

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Title: Comparing the Cost of High Use Patients across Twelve Countries – with special emphasis on Canada and New Zealand

Type of Abstract: Oral Presentation: Standard

Background and Objectives: High Use patients are a significant driver of health care expenditure in Canada and across the globe. Understanding how costs are decomposed across countries is an important comparison to facilitate possible avenues for cost reduction and greater system efficiency.

Approach: Examining four patient personas (Frail Elderly, Elderly with Dementia, Chronic Complex Cases and Young Patients with Severe Mental Health Conditions) using a range of administrative data sources the average annual cost of care for twelve developed countries. Costs are decomposed into seven categories (Inpatient Care, Primary Care, Outpatient Specialty, Outpatient Drugs, Home Health Services, Care at Nursing Facilities, and Long-term Care) although not all categories are captured in all countries. In addition, health service utilization metrics are captured for each persona.

Results: The most complete data source for all countries was the inpatient sector. Therefore, the personas that were most uniformly identifiable across all countries were the two personas that started with an index hospitalization: the frail elder and the older person hospitalized with heart failure with a comorbidity of diabetes.

Providing care to high use patients is expensive, and this is consistently observed across all countries. However, there are large differences in reported costs decomposed into the seven categories. There are also marked differences in health service utilization. There are different data collection processes and mechanisms for data capture. Some countries were able to report on whole of population data, while others relied on samples. Few countries captured all seven categories.

Conclusion: Significant variation in expenditure suggests that there are potential mechanisms to reduce costs in the provision of care to high use patients. Collaboration across twelve countries revealed very different mechanisms of data capture suggesting further harmonization would be worthwhile.

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Author: Rebecca Balasa

Title: Patients' and Parents' Perceptions of their Role in the Assessment of Nursing Students' Pediatric Clinical Practice

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patients and parents at the Children's Hospital of Eastern Ontario (CHEO) are not currently involved in the formal assessment of nursing students' clinical practice. Positive contributions of involving patients and parents in the assessment of nursing students' clinical practice include learning opportunities, improvements in care and patient empowerment. The objective of this study was to explore patients' and parents' perceptions of their role in the formative assessment of nursing students' pediatric clinical practice at CHEO.

Approach: This presentation will report on the qualitative portion of a larger study, conducted using a mixed methods methodology to address the research questions while also considering the results of the quantitative portion of the study.

Semi-structured interviews were conducted among patients (>13 years of age), and parents of patients (0-13 years of age) who were admitted to a medical or surgical unit at CHEO and who received care from a nursing student during their admission. The interviews were transcribed verbatim and manually analyzed using a content analysis methodological approach. Lincoln and Guba's criteria of trustworthiness were upheld.

Results: The preliminary results of this study have been grouped into four categories: 1) Aspects of nursing care that patients/parents want to assess when working with nursing students at CHEO (i.e. communication, empathy, bedside manners); 2) The benefits of having patients/parents assess nursing students' at CHEO (contributing to nursing students' future practice via their current learning process, patient/parent involvement and empowerment, and safer care); 3) The perceived challenges of having patients/parents assess nursing students' at CHEO (discomfort, lack of confidence, and fear of negatively impacting the nursing students' academic status or potential for future employment); and 4) The perceived facilitators to involve patients/parents in the assessment of nursing students' at CHEO (establishing expectations, providing resources and guidance, and facilitating the method of delivery of the assessment).

Conclusion: Patients and parents want to be involved in the assessment of nursing students' non-technical skills in a pediatric care context, however, a structured and guided facilitation is necessary for their successful involvement. Future research should focus on the development, implementation and assessment of such resources.

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Title: Quality of diabetes mellitus care in Ontario's Family Health Group and Family Health Organization models

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Following primary care reform in Ontario in early 2000's, Family Health Group (FHG) and Family Health Organization (FHO) models became Ontario's two predominant models for primary care delivery. Physicians in FHG and FHO models are remunerated through blended fee-for-service (FFS) and blended capitation, respectively. To date, physicians' performance in these models is very scant. We investigated the impact of physicians switching from FHG to FHO on quality of care provided to diabetic patients.

Approach: We used health administrative data from the Institute for Clinical Evaluative Sciences (IC/ES). Nine quality indicators were investigated, and analyses were conducted at the physician level. Propensity score methods (PSM) were employed to make the distribution of observable physician and patient covariates similar between the switchers and non-switchers, and then panel-data regression analyses were performed. Indicators that were proportions were analyzed using fractional regression models; indicators that were continuous measures were analyzed using linear fixed-effects regression models. We followed 2,120 physicians from the 2006 to 2015 fiscal years; thus we had 21,200 observations for our panel data.

Results: We found that switching from FHG to FHO was associated with 2.82% (95% confidence interval (CI): 2.00% - 3.65%) more HbA1c testing, 2.80% (95% CI: 1.97% - 3.62%) more lipid assessment, 2.89% (95% CI: 2.11% - 3.67%) more nephropathy screening, 1.12% (95% CI: 0.59% - 1.66%) more statin prescription, a decrease in mortality risk score by 19.67% (95% CI: 33.36% - 5.97%), and a decrease in comorbidity score by 10.34% (95% CI: 11.82% - 8.86%). However, switching was non-significantly associated with diabetes-related hospitalizations by -0.022% (95% CI: -0.050% - 0.0071%), annual eye examination by -0.019% (95% CI: -0.19% - 0.15%), and prescription of drugs for nephropathy by 0.358% (95% CI: -0.20% - 0.92%).

Conclusion: We found that, compared to blended FFS, blended capitation payment is associated with moderately better quality of care provided to patients with diabetes. Furthermore, we found that capitated payment was associated with lower mortality risk scores and lower comorbidity scores of enrolled patients compared to their blended FFS counterparts.

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ID: 548

Author: Mary Bartram

Title: Productivity and Access to Psychotherapy: Lessons for Canada from the United Kingdom

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Improved productivity and increased tax revenue were core elements of the original business case for the Improving Access to Psychological Therapies (IAPT) program launched in England in 2008. In Canada, productivity concerns are also driving increased interest in mental health from both the public and private sectors. This study examines lessons for Canada from the United Kingdom's (UK) efforts to improve productivity by increasing public funding for psychotherapy.

Approach: Productivity outcomes and broader lessons learned in the UK are analyzed drawing on publicly-available IAPT data and reports, with reference to the original business case. A comparative analysis considers how these lessons can be adapted to differences in the Canadian context, including: the greater role of employment-based benefits, federal/provincial dynamics in a more decentralized government structure, and gaps in public insurance for psychotherapy.

Results: Lessons learned include: 1) identifying the costs and benefits to the funder is important, and requires attention to multiple levels of government and both the private and public sectors in Canada 2) measuring changes in employment status requires transparency and careful attention to ebb and flow across various forms of occupation, both of which may be particularly challenging with Canada's diffuse accountability for results 3) broader economic and social changes need to be considered when attributing changes in employment status to psychotherapy in Canada just as in the UK and 4) demonstrated improvements in mental health status has been enough to sustain reforms in the UK, and in Canada it may be enough to reduce long-standing financial barriers to psychotherapy services.

Conclusion: This analysis points to the need to temper productivity claims when making the case for increased funding for psychotherapy until more conclusive evidence can be developed, and to adapt the policy rationale and service system design to specific governance contexts.

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Author: Mary Bartram

Title: Harm reduction as a bridge between mental health and addiction recovery

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Recovery is a key concept driving system transformation in both the addiction and mental health sectors, with shared roots in advocacy a shared focus on hope in the face of stigma, self-determination, and meaningful lives. Nevertheless, while cure is not thought to be necessary for mental health recovery, addiction recovery generally starts with abstinence. This study explores the potential for harm reduction to act as a bridge between the mental health and addiction sectors.

Approach: This qualitative study first draws on concept analysis to compare the use and defining attributes of key concepts in mental health and addictions policy documents, such as harm reduction, recovery, and well-being. An integrated conceptual model for mental health and addiction recovery is then developed and refined through interviews and focus groups with policy-makers, stakeholders and researchers in both the addiction and mental health sectors.

Results: While there is considerable common ground between how recovery is conceptualized in the mental health and addictions sectors, the emphasis on abstinence as the starting point for addictions recovery is at odds with the de-emphasis on cure as necessary for mental health recovery. Harm reduction, with its focus on reducing harms even with on-going substance use and addiction, has the potential to act as a bridge to mental recovery. A two-continuum model of mental health and addiction recovery is proposed. This model acknowledges that people can reduce harms associated with on-going substance use in much the same way that people with serious mental illnesses can also be flourishing.

Conclusion: The proposed model is an opportunity to clear up conceptual confusion between the mental health and addictions sectors on recovery. This coherence can in turn influence the development of more integrated policies and ultimately improve the quality of services for people living with mental health and substance use problems.

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ID: 93

Author: Ricardo Batista

Title: The health impact of living in a nursing home with a predominantly different spoken language

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Research has shown that patient–healthcare provider language concordance can foster trust, improve communication, have a positive impact on the quality of care, and on patients’ health outcomes. We compared healthcare quality indicators and health outcomes between Anglophones and Francophones in a linguistic minority situation, across all nursing homes in Ontario. We also examined the impact of the discordance of primary language spoken by residents and the main language of the facility on health outcomes.

Approach: Population-based retrospective cohort study using linked databases. Demographic data was obtained from Ontario Registered Persons Database (RPDB) and linked to the Continuing Care Reporting System (CCRS), which contains health information on nursing homes residents in Ontario. Main exposure measures were primary language spoken (Francophone and Anglophone) and predominant language of the nursing home (English or French). Primary outcomes of interests were healthcare quality and safety indicators, 12-month rates of hospital admissions, emergency room (ER) visits, and mortality. Cox-proportional hazards models were estimated to examine time to first hospitalization and ER visit by resident’s language and main language of the homes.

Results: Out of 609 homes, 2.8% (17) were identified as French. Francophones residents in French homes had 5.3% lower hospitalizations and 5.4% lower ER visits rates than Francophones in English homes, although the difference was only significant for ER visits rates. However, there were no differences in risk of hospitalization and ER visits by resident language and main language of the home, after adjusting for sociodemographic and health factors. There were no differences in mortality (crude rates Francophones 34.1 vs. Anglophones 33.6 x 100 person-days). The multivariate models revealed that gender, number of chronic conditions, home size, and ownership had significant effects on the risk of occurrence of these outcomes. The multivariable adjusted interaction between resident language and main language of the home was not significant.

Conclusion: This study suggests that discordance between resident language and main language of the home have negative effects on health outcomes, but we found that effect to be small. However, future research needs to further explore factors influencing differences in outcomes among people receiving nursing care in a linguistic minority situation.

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ID: 100

Author: Ricardo Batista

Title: Patient harm across linguistic groups: A retrospective cohort study of home care recipients in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: One out of 18 patients admitted to a Canadian hospital experiences harm. Harmful events jeopardize patient's safety can prolong a patient's hospital stay. Studies have shown that effective communication is an integral part of patient safety. However, there is limited research regarding the impact of language barriers on risk of harmful events. The objective of this study was to compare the rate of in-hospital harmful events among home care recipients in Ontario, by linguistic group.

Approach: We conducted a population-based retrospective cohort study in Ontario using administrative databases held at Institute for Clinical Evaluation Sciences. We included Ontario residents who completed a Resident Assessment Instrument for Home Care (RAI-HC) from April 1, 2010 to March 31, 2015 and who were hospitalized within 1 year of their first assessment. Primary language was obtained from the RAI-HC Database, which records each home care recipients' primary language. Hospitals designated by law to provide services in French were defined as Francophone-Designated hospitals. In-hospital harmful events were identified using the Hospital Harm Indicator developed by the Canadian Institute for Health Information.

Results: Compared to anglophones and francophones, allophone home care recipients were more likely to experience a harmful event while in hospital (8.8% for allophones compared to 7.7% and 7.6% for anglophones and francophones, respectively; $p < 0.01$). Compared to anglophones, allophones had an increased rate of harm in the context of health care- associated infection ($RR = 1.18$; $p < 0.01$) and procedure associated conditions ($RR = 1.09$; $p = 0.034$) after adjusting for potentially confounding variables. Overall, anglophone and francophone home care recipients had similar rates of harmful events, before and after adjusting for potentially confounding variables. However, the rate of harmful events for anglophones was lower in Non-Designated hospitals ($RR = 1.17$; $p < 0.01$), while the rate of harmful events for francophones was lower in Francophone-Designated hospitals ($RR = 1.14$; $p = 0.048$).

Conclusion: Language barriers may be a risk factor for in-hospital harmful events among frail Ontarians. Future research should attempt to identify factors associated with harmful events within each linguistic group so that appropriate measures can be taken to reduce the risk of harm events to a minimum.

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ID: 551

Author: Sumedh Bele

Title: Engaging Patients and their Caregivers to Develop a Patient-informed eHealth Solution for Pediatric Population: Novelty of KidsPRO

Type of Abstract: Oral Presentation: Standard

Background and Objectives: KidsPRO, an innovative eHealth solution is currently being developed to support and facilitate the integration of Patient-reported Outcomes (PROs) into routine care of chronically ill patients at the Alberta Children's Hospital (ACH) outpatient clinics. KidsPRO will be piloted at the ACH asthma clinic and will be available to pediatric patients and their family caregivers on mobile devices, tablets, and desktop applications. This study showcases a novel approach of engaging patients to develop an eHealth solution.

Approach: Based on the International Association for Public Participation's Public Participation Spectrum, a group of patient/family-partners (a diverse group of current patients and their family-caregivers) has been established. This group will be consulted to seek their input throughout the project including selection of the PROMs, design of the KidsPRO system and development of KidsPRO training modules for patients and their family caregivers. Priority-setting activities such as consultation sessions will be organised to active and meaningful collaboration between researchers and patients. This study also incorporates innovative recruitment strategy such as videos introducing KidsPRO and recruiting study participants and patient/family-partners.

Results: This project is in progress, and results will be available to present in May 2019, at the time of the Annual Canadian Association for Health Services and Policy Research Conference in Halifax. Novelty of this project lies in the way patients and their family caregivers are engaged throughout the process of developing KidsPRO as a patient-centered healthcare solution. Our project will demonstrate the process of engaging patients which could serve as a standard guide for patient engagement for designing patient-centered healthcare solutions around the world.

Conclusion: Many eHealth solutions are developed and implemented without engaging patients in their development process but in KidsPRO project, patient/family-partners will play crucial role in developing KidsPRO system. This study will enhance the understanding of engaging pediatric patients and their family caregivers as the partners in health services research.

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ID: 557

Author: Sumedh Bele

Title: Impact of Using Patient-reported Outcome Measures in Routine Clinical Care of Pediatric Patients with Chronic Conditions: A Systematic Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Integrating Patient-Reported Outcomes Measures (PROMs) in routine clinical care has shown to reduce utilization of healthcare services while improving patient outcomes. The objectives of our study were to: 1) identify previously implemented and evaluated PROMs for chronic conditions in pediatric settings; 2) consolidate the evidence to evaluate the impact of integrating PROMs on various factors including health-related quality of life (HRQoL), patient outcomes and quality of care among pediatric patients with chronic conditions.

Approach: Following electronic databases were systematically searched: MEDLINE, EMBASE, CINAHL, PsychINFO and Cochrane library. Reference lists of included studies were searched in the Web of Science (Thomson Reuters) database to ensure more complete coverage. All longitudinal studies including randomized control trials, cohort and case-control studies were included. Two reviewers independently screened the studies and extracted the data using standardized form. Extracted data was analyzed and synthesized. Quality of studies included was assessed using the Downs and Black quality assessment scale. A narrative synthesis of summarized data will be presented. The protocol for this review has been registered on PROSPERO database (CRD42018109035).

Results: Our database searching yielded 5564 articles after removing duplicates, with 30 articles meeting full text inclusion criteria. 6 articles reporting the results from 5 studies were identified for final review including 3 cohort studies and 2 randomised control trials. All the studies were conducted at the outpatient clinics of tertiary hospitals with 4 out of 5 studies conducted in Europe. The Pediatric Quality of Life InventoryTM (PedsQLTM) was the most commonly used generic PROM. No studies assessed the impact of integrating PROMs on healthcare utilization or quality of care. Integration of PROMs increased identification and discussion around HRQoL especially in psychosocial and emotional domains. Two out of three studies reported reduction in consultation time while the number of referrals did not show statistically significant increase.

Conclusion: This review shows the positive impact of integrating PROMs on improving routine clinical care for chronically ill pediatric patients. While these findings inform future integration of PROMs in pediatrics, they also identify significant gaps in current literature around the impact of integrating PROMs on healthcare utilization and quality of care.

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ID: 36

Author: Colene Bentley

Title: Barriers to and supports for conducting clinical trials in Canada – a qualitative analysis of key informant interviews with clinicians and clinical research professionals

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Conducting high-quality clinical trials (CTs) is becoming more complex and resource intensive. The international literature shows that the long-term viability of CT programs is challenged on several fronts, including: low rates of patient participation and trial completion, inefficient trials bureaucracies, shrinking budgets, regulatory burden, and the globalization of trials. We sought to clarify the challenges relevant to CT professionals responsible for running cancer CT programs and units in Canada, and identify strategies for improvement.

Approach: In telephone interviews conducted in 2017-2018, we asked clinicians and clinical research professionals for their perspectives on the barriers to and supports for conducting CTs at their institutions, in their provinces, and nation-wide. The interview script was informed by a literature review on the costs and benefits of CTs and CT networks conducted by the research team. Interviews were digitally recorded, transcribed verbatim, and coded in NVivo. The literature review informed the initial coding framework, with new concepts drawn out and coded during analysis. A constant comparative approach helped determine the range of meanings within each.

Results: 25 one-on-one telephone interviews were conducted, with an average length of 40 minutes. Key barriers identified by participants were: i) insufficient stable funding to support CT infrastructure; ii) fewer grant competitions, lack of infrastructure support, and reliance on foundations to fund clinical research have led CT units to adopt strict cost-recovery policies; iii) industry provides access to funds and new drugs for patients, but plays a disproportionately large role in clinical research in Canada; iv) regulatory compliance and managing interdepartmental activities were administrative burdens. Key supports were: i) core funding for CT infrastructure helped CT units retain staff, share knowledge, and manage trials portfolios; and ii) a centralized “back office” helped streamline institutional approvals so CTs open quicker and thus have longer accrual periods

Conclusion: The long-term viability of CT programs in Canada is in jeopardy. Funding uncertainties have led CT units to rely on industry sponsorship and feasibility thresholds to remain solvent. Participants endorsed entities like CT networks to help realize efficiencies through shared expertise, access to trials for patients, and streamlined infrastructure.

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ID: 295

Author: Patrick Berrigan

Title: The Cost-effectiveness of Screening Tools Used in the Diagnosis of Fetal Alcohol Spectrum Disorder: A Modelled Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Fetal Alcohol Spectrum Disorder (FASD) refers to a range of disorders characterized by physical and neurological abnormalities resulting from prenatal alcohol exposure. Though diagnosis can help patients receive appropriate treatment and improve outcomes, the diagnostic process can cost up to \$5,000/child. Due to cost, screening children suspected of FASD prior to diagnostic testing is recommended, to avoid administering testing to children who will not receive diagnoses. This study assesses the cost-effectiveness of FASD screening tools.

Approach: The screenings tools included in this study were chosen from Children's Healthcare Canada's National Screening Toolkit for Children and Youth Identified and Potentially Affected by FASD. Tools were chosen from the toolkit based on two criteria: i) the cost of administering the screening tool was available and ii) the diagnostic accuracy (sensitivity and specificity) of the screening tool to FASD was available. A review of literature revealed sufficient information to assess the cost-effectiveness of two tools from the toolkit, meconium testing and the neurobehavioral screening tool (NST). An economic model was constructed, to estimate the cost-effectiveness of these tools.

Results: Both of the screening tools evaluated resulted in cost savings and fewer diagnoses than a no screening strategy in which all children suspected of FASD receive diagnostic testing. Screening newborns with meconium testing resulted in a cost savings of \$69,676 per 100 individuals screened and approximately five fewer diagnoses, corresponding to an incremental cost-effectiveness ratio (ICER) of \$13,891. Screening children over four with the NST resulted in a cost savings of \$131,136 per 100 individuals screened and approximately nine fewer diagnoses, corresponding to an ICER of \$14,092. Probabilistic analysis indicated a greater than 90% probability of cost-effectiveness at a willingness-to-pay for an FASD diagnosis of up to \$10,600 for meconium testing and \$11,800 for the NST.

Conclusion: To our knowledge this is the first study to assess the cost-effectiveness of FASD screening tools. Findings can provide guidance to physicians and decision-makers evaluating which screening tools to use and the extent to which screening in general should be used in their jurisdictions, from a value for money perspective.

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Author: Iwona Bielska

Title: An Analysis of High Emergency Department Use in the Hamilton Niagara Haldimand Brant Local Health Integration Network, 2013-2017

Type of Abstract: Oral Presentation: Standard

Background and Objectives: High users of the health care system account for two-thirds of health care costs in the country. Previous research has shown that a third of these individuals remain high users from year to year. However, there is limited information on high users of the emergency department (ED). The objective is to examine five years of data on high ED users presenting to hospitals within the Hamilton Niagara Haldimand Brant Local Health Integration Network (HNHB LHIN).

Approach: A descriptive analysis of a five-year (2013-2017) cohort of high ED users attending HNHB LHIN EDs in southern Ontario was undertaken (catchment population: 1.45 million). High ED use was defined as having more than four (4) ED visits per year. Information on ED visits (number, discharge diagnoses), hospitalizations (number, length of stay, discharge diagnoses), patient characteristics (sex, age, sub-region of residence, rurality, chronic disease history), and mortality was abstracted. Data were obtained from Integrated Decision Support (IDS) hosted by Hamilton Health Sciences using the National Ambulatory Care Reporting System (NACRS) and the Discharge Abstract Database (DAD).

Results: Between 2013 and 2017, 64,950 individuals were high ED users with 22% being high ED users in two or more years. In 2017, 17,720 ED patients were high ED users, representing 5% of the total ED patient population. 63% were first-time high ED users. High ED users accounted for 19% of total ED visits, representing 128,324 visits in 2017. The mean number of ED visits was 7.2 (median: 6, range: 5-471) annually. High ED users were 46 years old on average (median: 46, range: 0-105) and more often female (54%). 13% came from rural areas. 44% of high ED users had one or more hospital admissions in 2017, averaging 2 hospitalizations (median: 2, range: 1-37) of 13 days in duration (median: 7, range 1-552).

Conclusion: High ED users account for a disproportionate amount of ED visits in the HNHB LHIN. This study identifies the characteristics of high ED use patients and the patterns of ED use among this cohort, which may inform upstream community interventions that would divert future high-frequency ED use.

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ID: 620

Author: Iwona Bielska

Title: Factors Associated with Emergency Department Length of Stay Times Greater than 8 Hours among Complex Patients in the Hamilton Niagara Haldimand Brant Local Health Integration Network

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Increasing emergency department (ED) patient wait times represent a substantial challenge for health care systems. Longer ED wait times are related to a greater risk of adverse outcomes, patient dissatisfaction, ambulance offload delays, and stress levels among health professionals. The objective was to identify the ED patient and visit characteristics related to wait time target status among complex patients (high acuity or admitted) in the Hamilton Niagara Haldimand Brant Local Health Integration Network (HNHB LHIN).

Approach: A secondary analysis of 2014-2015 fiscal year data on ED visits within the HNHB LHIN in southern Ontario was completed. Information on patient and visit characteristics was obtained from the National Ambulatory Care Reporting System. ED wait time performance in Ontario is measured as the 90th percentile length of stay from triage to discharge disposition. For complex patients, the provincial target is 8 hours. For the analysis, visits were classified as within target (≤ 8 hours) or above target (> 8 hours). Logistic regression analyses were carried out to determine the association between the characteristics and visit status.

Results: There were 551,394 ED visits of which 405,490 were among complex patients. 81% of the complex patient visits were within the 8 hour target. The odds of not meeting the target significantly increased with age, triage level, ambulance arrival, registration in ED between the hours of 21:00-5:59, receiving home care services, and hospital admission. Compared to patients who met the 8 hour target, patients who did not meet the target were more likely to be diagnosed with blood diseases (OR: 13.2, 95% CI: 11.9-14.8), endocrine/metabolic diseases (OR: 4.2, 95% CI: 3.9-4.6), and neoplasms (OR: 3.2, 95% CI: 2.8-3.7).

Conclusion: This study evaluated factors related to long ED wait times among complex patients. Further research should investigate possible hospital flow issues that impact ED length of stay, as well as provide evidence-based recommendations to addressing the situation.

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ID: 88

Author: Mathieu Bisson

Title: Case management for frequent users of health care services: a logic model presenting links between resources, activities and outcomes

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Case management (CM) appears to be an effective intervention to improve health care integration for frequent users of healthcare services and to reduce healthcare costs. Links between resources, activities and outcomes are crucial for successfully implementing this complex intervention. The aim of this presentation is to outline the links between components, resources, activities and outcomes of a CM program for frequent users of healthcare services.

Approach: The logic model was developed as part of a program evaluation of a case management program in a health and social services center in the province of Québec, using a qualitative case study, including the following methods: 1) analysis of documents of the organization (about the conceptual approach, goals and objectives of the program, and administrative documents); 2) in-depth interviews (n=56) and focus groups (n=11) with decision-makers, case managers, coordinators, patients, family physicians, pharmacists, nurses and community organizations representatives, and; 3) participant observation (n=39) of meetings between stakeholders. Collected data were analyzed using a mixed thematic analysis.

Results: As an empirical illustration of how the CM program operates, the logic model shows how the mobilized resources (financial, material, organizational and human) allow for the realization of the activities (case finding, assessment, care planning, coordination and self-management support), and the benefits for the patients (improved self-management, monitoring, care experiences and satisfaction, adherence, quality of life and health status) and for the organization (overall better integration of services and reduced emergency department visits, hospitalization rates, and health care costs). To obtain optimal outcomes, the intensity of the activities has to be adapted to the complexity of patient needs.

Conclusion: This logic model will help researchers and decision makers involved or interested in CM implementation for frequent users of healthcare services to adequately plan and implement the resources and activities of the CM intervention to achieve desired outcomes.

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ID: 427

Author: Rezvan Boostani

Title: Streamlining Transition From Rehabilitation Hospital Back to the Community (for Stroke Patients)

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The problem we are addressing is the complexity in transition from rehabilitation to community. Factors that can lead to a poor transition include but are not limited to push for discharge, lack of arranged follow-ups, lack of home assessments. Streamlined transition services can support individuals to better manage their recovery. Follow-up services can increase understanding of stroke and its impact for stroke patients and their caregivers.

Approach: To address the complexities within transition we focused on design thinking approach using the principle of human-centered design. A multidisciplinary group of stakeholders have been involved in various stage of the research to better understand the transition issues. Participants engaged in the study include stroke patients and their care partners, care providers, administrators and volunteers. We conducted mix-methods study to explore the area. Methods are as follows:

- Literature Scan
- Observation of Clinical Rounds & Observation of Stroke Unit
- Informal Chats & Interviews
- Co-design sessions & Feedback session

Results: The stroke patients, their caregiver, and care provider, experience frustrations and challenges in coordinating, defining and delivering the most optimal support and care for the patient after being discharged from rehabilitation. Our designed intervention introduces a system that works to alleviate these frustrations and fosters a smoother, more supportive care system in the process of transitioning from rehabilitation back to the community. This study was focused to streamline the transition of the stroke patients at the Bridgepoint Hospital, from rehab back to their home communities. It prepares the patient and caregiver for their new lifestyle by addressing needs in advance through supports and education, it lessens readmission into the healthcare system by acting as a resource in the community.

Conclusion: There are stressors on the overall healthcare system, care providers, patient-caregiver dyad in the complex process of transitional care. The designed intervention alleviates the strains on patients, caregivers and care-providers by setting up a system to introduce transition from the moment a patient is admitted to rehabilitation.

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ID: 560

Author: Rezvan Boostani

Title: Create a Memory-Friendly Restaurant Through Sensory Experience Design

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Sensory design including olfactory, auditory, visual and tactile elements within a restaurant setting can have an impact on the dining experience. This research project developed sensory-focused design principles and interventions specific to restaurant settings in order to include people with memory impairment due to aging and/or early stages of dementia. This is achieved using participant feedback from real-world dining experiences to understand sensory-focused design elements that support a quality experience.

Approach: A literature search was conducted with focus on defining background about social engagement challenges as a result of memory loss. The next stage of the research focused on the dining experience and used a diary method whereby persons with mild dementia and their family members identified their needs, barriers and goals for social engagement, associated with dining out. To validate information obtained from the diary information and the literature search, as well as obtain additional information, various stakeholders including individuals with mild dementia and their family members, and experts (two geriatricians, an interior designer and a restaurateur) were interviewed.

Results: Analysis of the data was qualitative and main themes emerged from open coding and thematic analysis of the data.

Main themes emerged from diary studies and interviews fell under 5 main themes: welcoming and friendly, familiarity, simplicity, inclusiveness and flexibility, as well as comfort and safety. The primary outcome of the study was a set of design guidelines for a memory-friendly restaurant. To provide coherent understanding, set of design guidelines expanded to encompass the memory- related background as a rationale for the proposed strategies. Defined needs, barriers and goals became data for context and strategies. Feedback and data findings from interviews added crucial details to the guidelines either as action plans or examples.

Conclusion: The purpose of this research is to improve restaurants to be memory-friendly through sensory design elements. This study defines the issues in a restaurant by individuals with memory impairment. The key outcome of the study was a set of design guidelines based on the emergent themes from the research methods.

All Authors: Rezvan Boostani

ID: 520

Author: Ingrid Botting

Title: Experience of health leadership in partnering with university based researchers in Canada – challenge to assumptions, barriers to effective collaboration, and call to action.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Emerging evidence that meaningful relationships with knowledge users are a key predictor of research use has led to promotion of partnership approaches to health research. However, little is known about health care leaders' experiences and perspectives of collaborations with university-based researchers focused on health system design and services organization, what makes them effective, and how to improve effectiveness.

Approach: In-depth, semi-structured interviews (n=25) were conducted with senior health personnel across Canada to explore their perspectives on health system research; experiences with health organization-university research partnerships; challenges to partnership research; and suggested actions for improving engagement with knowledge users and promoting research utilization. Participants were recruited from organizations with regional responsibilities, as opposed to specific institutions. An Advisory group of Senior Health Leaders (CEO level) from across Canada provided guidance in the development of this study and the interpretation of findings.

Results: Research is often experienced as unhelpful or irrelevant to decision-making, quality improvement or evaluation by many leaders within the system. Barriers to partnership differ from those identified in the literature. Instead, major barriers are organizational stress and restructuring, along with limitations in readiness of researchers to work in the fast-paced health care environment. Although the need for strong executive leadership was emphasized, "multi-system action" is needed for effective partnerships. This action requires fundamental changes, including how researchers work with the health system, health research funding and practice, and leadership by provincial governments.

Conclusion: Lack of responsiveness to health system needs may contribute to research collaborations with university researchers and resulting 'evidence-informed' practice being further marginalized from and underutilized in health care operations. Interventions to address barriers must respond to the perspectives and experience of health leaders, and require radical rethinking of "research".

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ID: 382

Author: Ivy Bourgeault

Title: Health Workforce Impact Assessment: A Complex Adaptive System Framework of Canadian Health Workforce Policy, Planning and Deployment

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Drawing inspiration from international efforts to integrate Health Workforce Impact Assessments (HWIA) into health policy and planning processes, Canadian policy-makers have expressed interest in the development of an HWIA Tool adapted to the Canadian context. Promising practices uncovered by the World Health Organization indicate that grounding the development of HWIA tools in established conceptual frameworks can promote targeted analyses that account for a comprehensive range of workforce considerations.

Approach: As a first step in the development of a Canadian HWIA Tool, this project aimed to produce a complex adaptive system framework of Canadian health workforce policy, planning and deployment. A review of existing conceptual frameworks describing the Canadian health workforce was conducted in order to inform the elaboration of a unified model of the system that shapes health workforce policy, planning, and deployment within the Canadian context. The review, analysis, and synthesis of existing conceptual frameworks was informed by the principles of complexity theory and the general properties of complex adaptive systems.

Results: This review produced an interdisciplinary model that accounts for a comprehensive array of factors, stakeholders, and sectors that influence the supply, distribution, and mix of the Canadian health workforce. This multi-level framework identifies interacting factors shaping the health workforce at the micro/practice-level, the meso/organizational-level, and the macro/system-level. The framework also treats the Canadian health workforce as a complex adaptive system composed of intersecting and interdependent sectors, including: 1) education and training; 2) governance and regulation; 3) funding, financing and remuneration; and 4) data infrastructure and technology. Finally, the framework enables stakeholder analysis by explicitly acknowledging that health workforce issues are shaped by the complex dynamics and adaptive behaviours of a vast network of stakeholders with distinct interests and levels of influence.

Conclusion: Embedding evidence-based HWIA into strategic planning cycles could support the development of a fit-for-purpose health workforce that enables effective and equitable achievement of health system objectives. This framework lays the foundations for such analysis by elucidating the complex adaptive system influencing the current and future state of the health workforce.

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ID: 389

Author: Ivy Bourgeault

Title: Applying a sex/gender-based analysis in support of psychologically healthy workplace policy

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Women, men and gender-diverse people have diverse experiences and outcomes in relation to mental health and psychological well-being. However, the complex nature and role of sex/gender on health, and lack of analytic guidance has meant that sex/gender based analysis (SGBA) of mental health and psychological well-being in the workplace has rarely been undertaken. This presentation describes a Canadian Institutes of Health Research (CIHR)/Health Canada (HC) Policy-Research Partnership project designed to address this gap.

Approach: CIHR and HC established Policy-Research Partnerships to respond to SGBA knowledge gaps for policy development and positive health outcomes. Our partnership of academics and employees blended academic, professional and expert knowledge of SGBA, psychological health and the workplace. One research stream, focusing on developing training and education for SGBA and psychological health and safety in the workplace, utilized joint meetings, consultation, reviews of the academic and grey literatures, stakeholder interviews, and knowledge dissemination through a national webinar. The second stream studied a national employee assistance program's (EAP) processes systematically to identify opportunities for the application of a sex/gender lens.

Results: While there are useful tools, guidelines and standards in the literatures on workplace psychological health, discerning who benefits or is excluded is unclear: SGBA assists in improving policy and health equity by reviewing the notion of 'gender-neutral', replacing it with sensitivity to sex, gender and intersecting identities (e.g. age, ethnicity and sexual orientation). The EAP study showed key process points for identifying and addressing SG-related gaps and possible health inequities, including underutilization of EAP services by groups that are high-risk or less likely to seek help. Targeted population outreach, staff training, and alternative methods of delivery may enhance EAP performance and service quality. Dissemination and uptake of evidence on SGBA of psychological health in the workplace looks promising for policy development and positive health outcomes.

Conclusion: Partnership approaches are well-suited to combining different types of knowledge, and assuring policy applicability in different contexts. SGBA of mental and psychological health in the workplace suggests that rethinking 'gender-neutral' approaches is required to enhance policy for positive health outcomes and improved health equity.

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ID: 240

Author: Randall Boyes

Title: The effect of community water fluoridation on the dental health of recruits in the Canadian Armed Forces

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Community water fluoridation is heralded as one of the most successful public health interventions of the previous century. However more recently, uncertainty regarding its effectiveness in reducing dental caries has led to the discontinuation of fluoridation in several Canadian municipalities. The aim of this study was to compare the dental caries experience of young adults who enrolled in the Canadian Armed Forces (CAF) in relation to residence in fluoridated communities (FC) and non-fluoridated communities (NFC).

Approach: The study population consisted of new members who enrolled in the CAF between 2006 and 2017 with a residential address in Canadian cities with known fluoridation status (n = 18,889). Odontogram data from enrolment dental examinations were used to calculate the number of decayed, missing, or filled teeth (DMFT) and tooth surfaces (DMFS) for each recruit. The average difference between recruits from water FC and NFC was determined using a linear regression model, adjusted for age, sex, rank, and median income quintile of their residential census tract. Effect modification by income and rank were investigated.

Results: The average recruit was 24 years old and had 5.52 DMFT and 10.50 DMFS. Adjusting for age, sex, rank and income, recruits residing in FC had 0.63 (95% CI 0.50, 0.76) lower DMFT and 1.51 (95% CI 1.18, 1.84) lower DMFS than recruits in NFC. The magnitude of the effect of water fluoridation was greater for recruits residing in lower income areas and was greater for non-commissioned members (NCM) than for officers. NCM in the lowest income quintile from FC had 0.64 (95% CI 0.35, 0.93) lower DMFT and 1.80 (95% CI 1.07, 2.52) lower DMFS than those from the lowest income quintile in NFC. For census tracts in the highest quintile, these differences were 0.23 (95% CI -0.75, 0.29) and 0.12 (-1.43, 1.19).

Conclusion: This study supports the effectiveness of community water fluoridation as a public health intervention using sample of young adults who recently enrolled in the CAF. Community water fluoridation is associated with reduced tooth decay and its benefits are particularly evident for NCM and for those from lower-income neighbourhoods.

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Author: Sydney Breneol

Title: Improving Health Care for Children with Medical Complexity through the use of Health Administrative Data: A Scoping Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Children with medical complexity are primarily understood as those with life-long complex chronic conditions requiring high levels of specialty care. Emerging evidence has revealed a disjuncture between our current health care system and the care needs of this population. The aim of this scoping review is to examine how health administrative data are informing the design of health service practice and policy recommendations for children with medical complexity and their families.

Approach: To ensure a systematic and replicable process, this scoping review followed methods outlined by the Joanna Brigg's Institute Methodology for Scoping Reviews. A search strategy was implemented across three electronic databases (PubMed, CINAHL, and EMBASE) and was supplemented by hand searching three high-impact pediatric journals within the previous five years. This review considered studies that examined all children and youth with medical complexity as their population of interest, regardless of the specific health concept under study. Only studies describing the use and analysis of routinely collected health administrative data were included in this review.

Results: Of the 5989 citations retrieved, 60 articles met the inclusion criteria. Four of the included studies combined the use of health data with family reports by the way of surveys, focus groups, or interviews. A variety of terminologies and patient identification methods were used across studies. Eleven studies showed promising results in improving the health care delivery and health outcomes for this population through the implementation of clinical complex care programs. Most other studies included in this review focused on identifying population prevalence and characteristics, health system utilization, and associated economic costs. Most all articles discussed the relevance of their results to clinical practices, administrative processes, policy development, and/or research initiatives. Strengths and limitations to using health data for research in this area were discussed.

Conclusion: It is critical that we begin to improve our health system to address the care needs of children with medical complexity and their families. These results demonstrate clear value in using health administrative data to help inform health program, policy, and research initiatives.

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Title: Respite Care Models for Children with Medical Complexity and their Families: An Environmental Scan

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Identifying respite care services for children and youth with medical complexity is an essential component of high quality health care. However, families report difficulty in finding and accessing respite care services in their communities. This environmental scan sought to identify the range of programs, resources, or policies that support the delivery of respite care services for children with medical complexity and their families across Canada, Australia, the United Kingdom, and the United States of America.

Approach: Environmental scans are a valuable tool to amalgamate multiples sources of data to inform health policies and programs. This scan employed a systematic search of pediatric health centres, pediatric societies, home care societies, and government websites in each of the countries of interest. Additionally, 45 emails were sent out to key stakeholders with an invitation to participate in our research by sharing any known information regarding this topic. Initiatives were included if their primary population of interest were children and/or youth with medical complexity. Our search was deemed completed once we were no longer identifying new programs/policies.

Results: Our targeted search revealed a variety of respite care initiatives aimed at supporting families of children with medical complexity. Based on our results, we identified 6 overarching categories of respite care initiatives: government programs (n=6), private agencies (n=3), community facilities (n=9), resource repositories (n=8), policies/guidelines (n=8), and reports/reviews (n=12). Government programs included grants/benefits aimed at assisting families with the cost of respite services. Private programs were accessed by families through their personal financial resources or health care benefits. Community facilities were structural centres providing the option of care outside the home. Resource repositories ranged from a list of local services to search engines. Reviews, reports, policies, and guidelines were often developed by government and pediatric associations to inform the delivery/regulate the delivery of respite care.

Conclusion: Respite care can provide families with the support to care for children with medical complexity. Regrettably, there remains a number of barriers to obtaining these services. This environmental scan identified a variety of programs, resources, and policies that support and inform respite care for children with medical complexity and their

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Titre: L'expérience des fréquents utilisateurs des services de santé de première ligne : une revue systématique avec synthèse thématique

Type d'abstrait: Oral Presentation: Standard

Objectifs: Au cours de la dernière décennie, les fréquents utilisateurs des services de santé ont capté l'attention des chercheurs, politiciens et décideurs du secteur de la santé. On en connaît cependant peu sur leur expérience. Cela est étonnant surtout dans le présent contexte où la recherche s'axe de plus en plus sur le patient.

L'objectif de cette étude est de faire une synthèse des études qualitatives ayant évalué l'expérience des fréquents utilisateurs des services de santé.

Approche: Une revue systématique a été réalisée dans les bases de données MEDLINE, CINALH and PsycINFO en utilisant une stratégie de recherche basée sur des groupes de mots clés reliés à l'expérience du patient, les soins de première ligne et les fréquents utilisateurs des services de santé. Par la suite, une synthèse thématique a été menée selon l'approche de Thomas & Harden (2008), avec codage et analyse dans le logiciel d'analyse qualitative NVivo selon les principes de l'analyse thématique (Miles, Huberman & Saldana, 2014).

Résultats: Cette revue systématique a permis d'identifier 1122 études. Une fois les doublons ainsi que les articles ne répondant pas aux critères d'inclusions ont été éliminés, 11 articles ont été retenus pour l'analyse. Au final, deux principales catégories de thèmes (incluant des sous-thèmes) ont été identifiées : 1) L'expérience de la maladie (i.e. le vécu avec la maladie : limitations physiques, souffrance mentale, impact sur les proches et « self-management » des symptômes) ; 2) L'expérience avec les services de santé (i.e. l'expérience globale au sein du système de santé : accessibilité aux soins de santé et l'expérience de soin).

Conclusion: Cette revue systématique représente, à notre connaissance, la première revue systématique sur le sujet. Cette étude permet de mieux comprendre l'expérience patient des fréquents utilisateurs du système de santé et ultimement, fournit des avenues pour l'amélioration des soins et services offerts à cette clientèle.

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Author: Hannah L. Brooks

Title: Patient experiences participating in an inpatient needle and syringe program at the Royal Alexandra Hospital

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Needle and syringe programs (NSPs) are considered a vital approach to reducing the risks associated with injection drug use. However, people who inject drugs (PWID) typically lack access to NSPs in hospital. This is problematic because PWID experience high rates of hospitalization and often continue to inject while hospitalized. In 2014, the Royal Alexandra Hospital in Edmonton, Alberta implemented one of Canada's first inpatient NSPs. We evaluated its implementation to assist with quality improvement.

Approach: We adopted a focused ethnographic research design and conducted 25 semi-structured qualitative interviews with hospitalized PWID. Interviews prioritized participants' perspectives of and experiences participating in the NSP and their recommendations for improvements, as well as their hospitalization experiences and interactions with hospital staff. The research was conducted in collaboration with a Community Advisory Group consisting of people with lived experience of substance use, homelessness, and hospitalization.

Results: Half of patients interviewed identified as female and 80% identified as Indigenous. Many patients reported that access to the NSP helped reduce use of non-sterile injection supplies and provided a means to access safer drug use information. Patients also felt the NSP made their hospital stay more comfortable and facilitated their treatment completion. However, several participants described barriers to accessing supplies. Barriers included anticipation that hospital staff would judge or prematurely discharge them, apprehend their injection supplies or drugs, or modify their medication regimes if they accepted supplies.

Conclusion: This study suggests that an inpatient NSP may reduce certain risks associated with injecting drugs while hospitalized. However, barriers to inpatient participation remain and certain modifications to the NSP and further interventions are required to reduce the fears some patients described. Further work is needed to facilitate the implementation of harm-reduction in hospitals and ensure and non-judgmental and patient-centered care for PWID.

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Author: Madison Brooks

Title: Residential Services for Adult Persons with Disabilities Comparative Policy Analysis: Nova Scotia and Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Recognizing the infringement on rights for persons with disabilities that institutionalization perpetuates, residential support has gradually and increasingly shifted to community-based living in Canadian provinces. In Nova Scotia, institutionalization still exists. The overarching objective of the analysis is to critically investigate Nova Scotia's policy in comparison to Ontario's equivalent policy, in order to understand adherence to rights for persons with disabilities that are upheld and future development of policy that promotes choice, access and inclusion.

Approach: To conduct the comparative policy analysis, an overview of each province's problem definition, goals and instruments of policy will be synthesized. The social political context for both policies will also be discussed. To assess access and equity, a view informed by the Disability Policy Lens and selected parts of Article 19 of The United Nations Convention on the Rights of Persons with Disabilities will be utilized to examine why and how the the policies of Nova Scotia and Ontario are similar and different. Across the policies, horizontal consistency and different kinds of equity (outcome, vertical and horizontal) will be considered.

Results: Drawing from similar backgrounds, the residential support policies for individuals with disabilities in display both similarities and differences. Under the Disability Policy Lens, both Nova Scotia (DSP Policy) and Ontario (SSPSIPDDA) assume a functional model of disability. However, the SSPSIPDDA indicates structuring of universal access/coverage as disability is recognized as one of a number of variations occurring in a population, whereas the DSP Policy is structured with individuals with disabilities as a minority population. Both policies aim to achieve vertical equity. Regarding Article 19 of the CRPD, choice was not upheld by the DSP Policy, conversely the SSPSIPDDA indicated choice through policy wording. Finally, access and inclusion were found to be partially congruent with Nova Scotia's policy and fully recognized through Ontario's policy.

Conclusion: Findings highlight reshaping policy through a critical perspective of community-based living, rooted in inclusion of persons with disabilities, is key to achieving specific requirements laid out in the CRPD and remedying existing weaknesses in policy according to the Disability Policy Lens. Person-centred care must be reflected in policy development.

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Title: Diabetes mellitus and risk of perinatal mental illness: A population-based cohort study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Perinatal mental illness affects one in five women. Pre-pregnancy diabetes mellitus has been identified as a potential risk factor for perinatal mental illness, but it is unclear which disease factors drive this association. Our objectives were to (1) examine the overall association between diabetes and perinatal mental illness and (2) identify how pre-pregnancy disease severity, complexity, and management in women with diabetes affect their risk of perinatal mental illness.

Approach: We performed a population-based study of 15- to 49-year-old women with (n=14,186) and without (n=843,818) pre-pregnancy diabetes with a singleton livebirth and no recent mental illness (2005-2015, Ontario). The outcome was mental illness diagnosed between conception and 365 days postpartum. Latent class analysis was performed to identify groups of women with diabetes according to severity (duration, pre-pregnancy HbA1c, insulin pump use), complexity (complications, comorbidities), and management (diabetes monitoring, continuity of care). Modified Poisson regression was used to estimate risk of perinatal mental illness in women with vs. without diabetes and in each diabetes group vs. women without diabetes.

Results: Women with diabetes were more likely than those without to have perinatal mental illness (18.2% vs. 16.0%), even after accounting for age, parity, income, rural residence, and remote history of mental illness (adjusted relative risk [aRR] 1.11, 95% confidence interval [CI] 1.07-1.15). The latent class analysis identified three groups with diabetes, described as uncomplicated and not receiving regular diabetes care (class 1); complicated, with longstanding diabetes, and receiving regular diabetes care (class 2); and complicated, recently diagnosed, and receiving regular diabetes care (class 3). In multivariable analyses, class 1 (aRR 1.13, 95% CI 1.08-1.18), class 2 (aRR 1.10, 95% CI 1.01-1.19), and class 3 (aRR 1.10, 95% CI 1.02-1.18) were each associated with increased risk for perinatal mental illness relative to women without diabetes.

Conclusion: Risk for perinatal mental illness did not vary by latent class, suggesting that women with diabetes are at risk regardless of the severity of their medical illness. They could benefit from primary preventive strategies initiated before pregnancy and screening in pregnancy to reduce their risk of perinatal mental illness.

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Title: The Overlap Between the Child Welfare and Youth Justice Systems in Manitoba, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The province of Manitoba has one of the highest rates of children taken into care of child welfare services (Child and Family Services (CFS)) in the world, and also one of the highest youth incarceration rates in Canada. Our objective was to quantify the extent of the overlap between these two systems: having a history of CFS during childhood (0-17 years) and being charged with a crime as a youth (12-17 years).

Approach: We linked CFS, Justice, and Population Registry data from the Manitoba Population Research Data Repository at the Manitoba Centre for Health Policy. Using a cohort approach, we selected all individuals born in 1994 (N=25,699); those not in the province at any time from 12-17 years were excluded (final cohort=18,754). The cohort was divided into 3 groups according to CFS involvement: any CFS out-of-home care (1,483); any CFS in-home services but never in care (3,367); never any CFS (13,904). Criminal charges between 12-17 years were identified. Population registries were used to identify First Nations children/youth and Metis children/youth within the cohort.

Results: 7.9% of our cohort had CFS out-of-home care, 18.0% received CFS in-home services, and 74.1% had no CFS involvement. 8.4% of the cohort were charged of a crime between 12-17 years. Over one-third (36.4%) of youth who had CFS out-of-home care had criminal charges, compared to 14.9% of youth who had CFS in-home services, and 4.4% of youth with no CFS. Despite accounting for only 7.9% of the cohort, youth who had out-of-home care accounted for 34.2% of youth with criminal charges. First Nations (FN) and Metis children/youth were over-represented in both systems; for example, 30.4% of FN youth had been in care compared to 3.4% of non-Indigenous children/youth; and 28.5% of FN youth were charged with a crime compared to 4.4% of non-Indigenous.

Conclusion: There is substantial overlap between the child welfare and youth justice systems, with overrepresentation of Indigenous youth in both systems. Culturally appropriate programs and policies aimed at supporting parents and families to care for their own children will likely have long-term impacts on the youth justice system.

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Author: Stirling Bryan

Title: A Canadian research agenda to improve South Asian patients' experience of knee replacement surgery: Results from a modified Delphi study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Whilst most total knee arthroplasty (TKA) patients report high levels of satisfaction, up to 1-in-5 express dissatisfaction with the outcome of their surgery. Our project's goal was to understand the experiences and satisfaction of South Asian TKA patients in British Columbia (BC), with a view to identifying a South Asian patient-oriented research agenda for TKA in Canada. To our knowledge, this study is the first to elicit research priorities from South Asian patients.

Approach: We undertook a mixed methods modified Delphi study in BC. Three focus groups were conducted with South Asian TKA patients/caregivers, in English, Punjabi and 'Hinglish', to identify survey items. Participant recruitment was through community and health system outreach, seeking diversity in sex, age and TKA outcome satisfaction. Focus groups were audio-taped and transcribed, and data analyzed using thematic analysis. A Delphi questionnaire was then developed and administered over two rounds, to a panel comprising two stakeholder groups: South Asian TKA patients/caregivers and health professionals. The Round 2 questionnaire only included topics 'strongly' supported by at least one stakeholder group.

Results: A total of 27 TKA patients/caregivers attended the focus group discussions. Our analyses resulted in six broad themes (Reducing the need for TKA; Preparing for, and timing of, surgery; Improving knee implants; Improving surgical techniques; Enhancing in-hospital recovery; Supporting longer-term recovery), and 25 specific research topics. The Delphi survey (both Rounds 1 and 2) was completed by 32 (54% response) patients/caregivers and 25 (76% response) clinicians. Two topics were indicated as top priorities for both patients/caregivers and clinicians: Promoting exercise following surgery and Self-management after hospital discharge. One of the highest ranked topics for patients/caregivers – Improving knee implants to allow for kneeling, squatting and walking downhill – was only supported by 36% of clinicians.

Conclusion: Typically, research agenda settings exercises exclude minority groups, thereby preventing identification of culturally-specific research topics. Our study is a response to such concerns. The findings point strongly to future research priorities for South Asian TKA patients on promotion of exercise and self-management following surgery, and improvement in knee implants.

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Author: Denise Bryant-Lukosius

Title: Clarifying Specialized and Advanced Nursing Roles: Results of a National Study to Inform Health Workforce Optimization in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Effective use of health human resources is a policy priority of federal/provincial/territorial governments. Yet, healthcare managers lack understanding about how to utilize nurses in advanced and non-advanced roles and underuse of nursing expertise and scope of practice is common. This study examined specialty nursing in Canada to: i) discern specialized nurse (SN), clinical nurse specialist (CNS), and nurse practitioner (NP) roles related to deployment, practice patterns, and competencies; and ii) provide recommendations for role optimization.

Approach: A descriptive cross-sectional survey employed an online questionnaire involving a validated tool to assess domains of advanced practice. Participants had to be working in a clinical role and be: a) registered nurse (RN) with a diploma/baccalaureate degree in nursing and specialty certification, or a CNS or NP with a master's/doctorate degree, and b) able to complete the questionnaire in English or French. Recruitment occurred through national specialty and advanced practice nursing organizations. Variance and linear regression methods were used to compare practice activities across groups and identify predictive factors for consistent involvement in advanced practice domains.

Results: Nurses (n=1454) representing all provinces/territories participated, including SNs (n=576), CNSs (n=345), and NPs (n=526). More NPs (85%) had a masters/doctoral degree, compared to CNSs (73%) and SNs (19%). Most of nurses (82%) worked in urban communities with more SNs (59%) and CNSs (64%) working in hospitals compared to NPs (37%) (p=0.000). Nurses in all three groups were most frequently involved in providing direct comprehensive care. CNSs spent more time in each of the non-clinical domains (i.e., support of systems, education, research, professional leadership) compared to SNs and NPs. Differences and overlap in clinical activities were observed among the nursing roles. Role type, years of experience as an advanced practice nurse, and certification were modest predictors of involvement in each domain of advanced practice.

Conclusion: SNs, CNSs, and NPs contribute to healthcare in unique and complementary ways. Nurse characteristics and type of role were modest predictors of activity suggesting that other factors (e.g., team, organization) influence deployment and role enactment. Policy recommendations to enhance the education, regulation, and implementation of specialized nursing roles are provided.

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Author: Suman Budhwani

Title: Measuring the performance of integrated care systems: A scoping review of what, why and how

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Health systems worldwide are exploring integrated patient care models to improve outcomes. A key question is how to assess the performance of integrated care systems. The objective of this study was to assess current approaches to assessing the performance of an integrated care system. A secondary objective was to recommend a list of measures that could be used to create a best-in-class integrated care balanced scorecard for a local health authority.

Approach: A scoping review of peer-reviewed and grey literature published in English between 2000-2018 was conducted. A total of 4035 articles were gathered for screening from CINAHL, Medline, Psychinfo, Embase, Google and Google Scholar. Two reviewers independently screened articles for title and abstract based on the inclusion/exclusion criteria, followed by full text review. The main goal of the full text review was to characterize the measures used to assess the performance of integrated care and understand why they were selected, in specific contexts and how they relate to the structures and processes of integrated care.

Results: Anticipated study results will identify key constructs, dimensions and measures used to assess the performance of integrated care. A theory of change will be proposed to enable understanding of the value of specific structures and processes that lead to outputs and outcomes of integrated patient care. Reliable, feasible and scientifically sound measures will be identified that can be used to assess integrated care in Ontario. Relevant measures that describe underlying mechanisms of change will be identified and included in this proposed scorecard.

Conclusion: The what, the why and the how of integrated care are important questions to answer in recommending performance measures assessing achievement of integrated patient care within health systems. Tracking performance of integrated care through reliable, feasible and scientifically sound measures will lead to improved patient and health system outcomes.

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Author: Heather Bullock

Title: An examination of mental health and addictions policy implementation efforts and the structures that support them in New Zealand, Canada (Ontario) and Sweden

Type of Abstract: Oral Presentation: Standard

Background and Objectives: There is a growing body of research about effective programs and services to address mental ill health and reduce substance use problems, and policy directions aimed at achieving better mental health outcomes. Yet we still do not know enough about how to implement and scale these evidence-informed policies and programs effectively across systems. This study focuses on how implementation is structured and the methods being used in large well-developed mental health systems.

Approach: We conducted a comparative case study using an iKT approach to examine the role of intermediary organizations supporting implementation in mental health systems. Selected cases (based on Mill's Method of Similarity) included: New Zealand, Canada (Ontario) and Sweden. We then drew from established explanatory frameworks to address three questions: 1) Why were the intermediaries established? 2) How are intermediaries structured and what functions do they fulfill in systems to support the implementation of policy directions? and 3) What explains the differences among them?

Results: Results: Data collection included site visits, key informant interviews and document analysis. A total of 47 interviews were conducted and policy and other publicly available documents were reviewed for each case. In each jurisdiction, a unique set of problems, policies and political events were coupled by a policy entrepreneur to bring intermediaries onto the decision agenda. While intermediaries varied greatly in their structure, their functions were surprisingly similar, with some key differences. These differences are explained using the 3I+E framework (Lavis 2004).

Conclusion: Intermediaries are enablers of policy implementation and are critical in filling the gap between evidence-informed policy goals and outcomes. Policy-makers working in mental health and addictions must consider capacity to support implementation, which should include intermediaries that have skills and expertise in knowledge translation, implementation science and quality improvement.

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Title: Changing trends over time: the Canadian Medical Liability Litigation Experience for Physicians

Type of Abstract: Oral Presentation: Standard

Background and Objectives: When litigation alleging medical malpractice occurs, it has a profound impact on patients, individual health care providers, and health systems. The Canadian Medical Protective Association (CMPA) is the main provider of liability protection for more than 99,000 Canadian physicians. This study investigates the characteristics and temporal trends of medical liability litigation for Canadian physicians to identify their implications for health policy, patient safety and risk management.

Approach: The CMPA's medico-legal database is a large national database that includes information on litigation cases involving its member physicians. Using this database, we produced trends of litigation risk, average disbursements and average damage payments over the past 25 years (1993-2017). Litigation risk was calculated as frequency per 1,000 physicians. We also examined litigation trends by physician specialty. For a more current medico-legal landscape, we analyzed closed civil legal actions from the recent 5 years (2013-2017) to show, by physician specialty or by province, the risk of a physician being involved in a civil legal case.

Results: Over the last 25 years, the rate of members being involved in legal actions decreased significantly ($p < 0.0001$) by an average of 2.1%/year. Mean disbursements and damage payments increased significantly ($p < 0.0001$). Mean disbursements increased at an average rate of 9.9%/year while mean damage payments increased an average of 6.6%/year. This was driven by significant ($p < 0.0001$) increases of cases with damage payments over \$1M (average annual increase of 13.0%).

Large variations existed in litigation risks by physician specialty, ranging from 61.4 civil legal actions per 1,000 physicians in obstetrics and gynecology to 5.2 cases per 1,000 in family medicine. These risks also varied by province, with 15.6 cases per 1,000 Ontario physicians and 7.4 cases per 1,000 Saskatchewan physicians.

Conclusion: Our analysis shed light on a unique aspect of the Canadian healthcare system. With an aging population and increasingly complex medicine, our findings point to the need for an efficient and effective medico-legal system and safe medical care improvements to enhance the long term sustainability of the healthcare system.

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Title: Characterizing program models for diabetes management among those experiencing homelessness

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Cardiovascular disease, for which diabetes is a major risk factor, remains one of the leading causes of mortality among those experiencing homelessness. Optimal diabetes management, which is rare among those experiencing homelessness, can prevent long-term complications. Organizations have developed novel models to provide diabetes care. These are often developed in the community and are rarely shared between organizations. The objective of our environmental scan was to document how diabetes care is delivered to individuals who

Approach: We contacted individuals in five major Canadian cities (Toronto, Ottawa, Calgary, Edmonton, Vancouver) from four groups: (1) those who provide diabetes care to the homeless; (2) those who provide primary care services to the homeless; (3) those who provide diabetes-specialty care; and (4) those who provide social care/housing. We began with personal contacts and proceeded with directed snowball sampling. Data was collected using detailed open-ended interviews and participant observation. Transcripts and field notes were analyzed using thematic analysis.

Results: We interviewed over 50 stakeholders in the five cities, and conducted observations of three programs. We found that care providers face many of the same challenges across jurisdictions. Despite these similarities, most providers and organizations do not communicate with others who are likely struggling with similar issues – meaning that they are often attempting to respond to challenges in isolation. While some tailored practices may require large changes in policy to be scaled, many creative solutions can be described as “micro-innovations” which could be implemented at the organization/practice level. Examples include: peer counselors/support workers, diabetes group care specific for this population, endocrine outreach clinics, embedded diabetes education, case management, and enhanced access to medications and supplies.

Conclusion: There are significant challenges and barriers to providing diabetes care for individuals who are experiencing homelessness. In the face of these challenges, numerous organizations have created innovative solutions to improving diabetes-related outcomes. Sharing experiences across organizations and jurisdictions can facilitate development of successful program models.

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Title: Patient and Primary Care Provider Perspectives on Facilitated Relay to Enhance Use of Statins

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Statin medication use remains suboptimal among individuals with diabetes. Facilitated relay (FR), a quality improvement strategy, has been shown to enhance guideline concordant care in some clinical contexts. FR is when clinical information is collected from patients and transmitted to providers by a means other than the existing medical record. The objective of our study was to explore the perspectives of patients and primary care providers regarding a FR intervention to increase statin use.

Approach: We conducted individual semi-structured interviews with primary care providers (n=17) and two focus groups with a convenience sample of patients (n=7/5). Proceedings were recorded, transcribed, and analyzed in duplicate using thematic analysis facilitated by NVivo 12 software.

Results: Providers proposed a variety of interventions to improve statin use including electronic record audit solutions, provider-directed education, and patient-oriented campaigns. Patients expressed the importance of clear communication and rapport with their providers in influencing them to take statins. Patients preferred solutions that engaged them in the management of their lipids through enhanced transparency of results (i.e. an online patient portal). Providers were also generally supportive of sending results and materials directly to patients. Both parties provided positive feedback on the proposed FR intervention. The most important considerations for FR messaging included: brevity, simplicity, use of graphics and colors, and the reputation of the signer/sender.

Conclusion: Providers and patients described several suggestions for enhancing the use of statins. Importantly, a lab-based FR strategy would be welcomed by both patients and providers. These findings support further testing of an FR intervention which may enhance providers' ability to successfully engage patients in cardiovascular risk reduction through statin therapy.

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ID: 82

Author: David Campbell

Title: Exploring patient and family physician perspectives on initiation and adherence to statin therapy

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite their proven efficacy to reduce cardiovascular disease, statin medication use remains suboptimal. Less than 50% of individuals at high risk for cardiovascular disease take statin therapy despite their widespread availability and safety. Our objectives were to explore the perspectives of family physicians and patients with regards to the barriers to initiating and adhering to statins, as well as the facilitators and strategies to increase statin use.

Approach: In this qualitative study, we conducted individual semi-structured interviews with family physicians (n=17) and two focus groups with patients (n=7/5) in Alberta, who were chosen via convenience sampling. Interviews were digitally recorded and transcribed verbatim. Interview transcripts were analyzed in duplicate using thematic analysis techniques and was facilitated by NVivo 12 software. Interviewers asked participants about why patients may or may not initiate or adhere to statins, as well as strategies used to increase initiation and adherence.

Results: In this qualitative study, we conducted individual semi-structured interviews with family physicians (n=17) and two focus groups with patients (n=7/5) in Alberta, who were chosen via convenience sampling. Interviews were digitally recorded and transcribed verbatim. Interview transcripts were analyzed in duplicate using thematic analysis techniques and was facilitated by NVivo 12 software. Interviewers asked participants about why patients may or may not initiate or adhere to statins, as well as strategies used to increase initiation and adherence.

Conclusion: Although statins are efficacious, effective, and safe, there is significant underuse of these medications. We identified several important barriers to statin use at the individual patient level as well as at the prescriber level. Patients and prescribers offered insight into several potential strategies to encourage statin initiation and adherence.

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ID: 359

Author: Tonya Campbell

Title: Development of an interactive dashboard for up-to-date and regional information on prescription opioid dispensing across Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In 2016, one initiative of Ontario's Opioid Strategy included launching a dashboard, hosted by Public Health Ontario, to track opioid overdoses across the province. Yet, access to timely information on opioid prescribing was needed to inform policies and programs aimed at improving safe prescribing practices and reducing adverse events. We describe the development of the Ontario Prescription Opioid Tool, a publicly available, interactive resource that reports indicators of prescription opioid dispensing by region across Ontario.

Approach: Through a collaborative step-wise process involving engagement with multiple provincial stakeholders, we developed a list of potential indicators on opioid prescribing. We organized a webinar with knowledge users, including Local Health Integration Network (LHIN) and Public Health Unit (PHU) representatives, to gather input on the proposed indicators using polls, and administered a follow-up survey to help prioritize and reach a consensus. From this feedback, we finalized a set of indicators. We extracted data from the Narcotics Monitoring System and the Ontario Drug Benefit Claims database. We used Tableau to construct the interactive dashboard that is now publicly available.

Results: Feedback from the webinar and survey led to the development of 6 prescription opioid dispensing indicators: people dispensed opioids for 1) pain, 2) cough, and 3) opioid agonist therapy, 4) people receiving high daily dose opioid prescriptions, 5) the dose of prescription opioids dispensed (in milligrams of morphine equivalents), and 6) prescribers for opioid agonist therapy. We stratified the indicators by age, sex, and geography (PHU and LHIN). Based on feedback from knowledge users following the release of the tool, we added the type of opioid dispensed among the prescribers for opioid agonist therapy indicator, as well as a new indicator presenting pharmacy-dispensed naloxone. Data provided on the tool are updated quarterly. Almost 9,000 unique users have visited the dashboard since launching in July 2018.

Conclusion: The Ontario Prescription Opioid Tool provides stakeholders with timely information on prescription opioid dispensing that is informing opioid-related policies and programs. This process of stakeholder engagement and posting up-to-date prescription drug data can serve as a model for developing similar tools in other jurisdictions.

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Author: Michael Campitelli

Title: Time trends in opioid prescribing among Ontario long-term care residents: a repeated cross-sectional study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Opioids are important in pain management, but their use may be associated with adverse events in vulnerable long-term care (LTC) residents. Recent initiatives have focused on improving the appropriateness and safety of opioid prescribing; whether these changes have had an impact on opioid prescribing in LTC is unknown. The objective of this study was to investigate patterns of opioid prescribing over time for non-cancer pain in Ontario LTC residents.

Approach: We used linked clinical and health administrative databases to conduct a population-based, repeated cross-sectional study of Ontario LTC residents aged ≥ 66 years between April 1, 2009 - March 31, 2017. For each resident, we selected their first full clinical assessment per fiscal year. Residents with cancer or who received recent palliative care were excluded. Drug claims overlapping assessment date were used to capture the proportion of LTC residents receiving: any opioid, specific agents, >90 milligrams of morphine equivalents (MME), and opioids co-prescribed with benzodiazepines. Log-binomial regression was used to quantify the percentage change between the 2009 and 2016 fiscal years.

Results: Across an eight year study period, our study population comprised an average of 76,147 LTC residents per year. The prevalence of opioid use among LTC residents increased from 16% in 2009 to 20% in 2016 (percentage change=24%; $p<0.001$). This rise was associated with an increase in hydromorphone use by 221% over the study period, while use of all other agents (codeine, morphine, fentanyl, and oxycodone) decreased. From 2009 to 2016, the prevalence of opioids increased most rapidly in frail residents (31% increase vs. 11% for robust residents; $p<0.001$) and those with dementia (38% increase vs. 22% for those without dementia; $p<0.001$). The prevalent use of opioids >90 MME and the co-prescription of opioids with benzodiazepines decreased by 25% and 30%, respectively.

Conclusion: Trends in opioid prescribing in LTC demonstrate increasing alignment with guideline recommendations, including a large shift towards using hydromorphone, a better tolerated agent in older adults, and prescribing at lower doses. Future work should examine if these changes are associated with better safety and pain management outcomes for LTC residents.

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ID: 444

Author: Elisa Candido

Title: Predicting high cost users of the healthcare system using a machine learning approach on clinical text from primary care electronic medical records

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Accurate prediction of future high cost users (HCUs) of the health care system may facilitate opportunities for intervention. This study aims to use machine learning (ML) techniques on clinical text contained within family physicians' (FPs) electronic medical records (EMRs) to predict patients who will become HCUs of the healthcare system (defined as the top 5% of healthcare expenditures) in the next 12 months.

Approach: Data was from the Electronic Medical Record Primary Care (EMRPC) database between April 1, 2015 and March 31, 2016. The study cohort consisted of 277,173 patients from across Ontario. Total healthcare costs (from the payer perspective) were assessed through linkage with health administrative data. Separate training and validation cohorts were created. ML techniques were applied to transform six text fields in the cumulative patient profile of the EMR into modelling features. Logistic regression models were fit to predict HCUs in the 12 months following data extraction. Model performance was assessed using the area under the receiver operating characteristic (AUROC) curve.

Results: Our preliminary models, derived from applying ML techniques on free-text fields from family physician's EMRs, demonstrated good performance in their ability to predict patients who will become HCUs of the healthcare system in the next 12 months. The AUROC for the models based only on information from the six free-text fields in the EMRPC database, as well as age and sex, ranged from 0.819 to 0.827. Models that included the patient's current year percentile of healthcare expenditure improved performance overall to an AUROC 0.893 to 0.896. Importantly, this improvement was due to improved predictions amongst current high cost users while performance for patients with lower healthcare expenditures were better without current cost information.

Conclusion: ML techniques can be successfully applied to clinical text data within primary care EMRs to predict future HCUs of the healthcare system. By using data that are readily available from FPs, these models may be helpful in identifying patients at-risk of becoming HCUs, who may benefit from early intervention.

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ID: 163

Author: Carolyn Canfield

Title: "Spotlight on Caregiving in Ontario": a co-design success with The Change Foundation and the Patient Advisors Network

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Caregivers provide 3/4 of patient care in Canada, but their contribution and challenges are poorly understood. Bridging this knowledge gap is the current focus of The Change Foundation, Ontario's health policy thinktank, in co-design partnership with the Patient Advisors Network (PAN), a national peer-led community of practice. Objectives are to learn, document and spread understanding about the diverse experiences and views of this largest, but often hidden, sector of the health workforce.

Approach: Caregivers are family members or friends who provide care for someone, without pay, due to frailty, illness or disease, recovery from accident or surgery, and physical or mental disability. Accessing authentic and sensitive information during this multi-year project depends on co-designing two tools: (1) iterative online polling research with a diverse cohort of 800+ caregivers; and (2) a standing Advisory Panel of Caregivers for deeper qualitative understanding of emerging caregiver topics. Strategic communications on social media, website and print platforms showcase findings to transfer knowledge, raise awareness, and influence change in support of caregivers as vital drivers of healthcare value.

Results: Collaboration with The Change Foundation has enabled PAN to test its capacity to undertake shared project management conventions. Our co-lead model with accountability to the PAN steering committee is backed by Canada-wide team members. Recruiting from Ontario for the project's caregiver cohorts had PAN test its "network of networks" as an online community of practice. Release of the 2018 "Spotlight on Ontario's Caregivers" survey established the baseline for a systematic and respectful examination of the experience, profile and needs of caregivers. The report launch resulted in 400 downloads, 75 media stories and 1800 twitter engagements, supported by The Change Foundation and PAN's amplification. Two months later, the dialogue and commentary continues, with the co-design approach generating additional interest and impact for the findings.

Conclusion: Co-design between informed and respected individuals is familiar, but policy-organization to peer-organization partnerships can also succeed. Grounded in experience and process integrity, The Change Foundation and PAN have found each other well-matched in this trial collaboration, now poised for future embedding of the caregiver voice into Ontario's health care system.

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Author: Jaimie Carrier

Title: Exploring the Employers Perspective on the Implementation of Registered Nurse Prescribing in Nova Scotia

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Nurse prescribing has been implemented internationally for over 20 years in response to growing demands for healthcare services, demographic shifts and financial pressures. Nova Scotia is examining opportunities for innovative healthcare delivery models that optimize the scopes of practice of existing health professionals and have a direct impact on accessibility. The objective of this study was to explore the perspectives of employers on the implementation of registered nurse (RN) prescribing in Nova Scotia.

Approach: We used a qualitative descriptive design. Participants (n=9) were managers, directors, or senior directors overseeing health services for adults in primary healthcare, long-term care, home care and mental health. Interviews were semi-structured and offered the participants the opportunity to share their perspectives on, a) patient care areas that would benefit from RN prescribing, b) important concepts to be considered in the creation of RN prescribing policy, and c) the possible barriers and facilitators to the implementation of RN prescribing. Interviews were analyzed using thematic analysis.

Results: Results revealed that employers believe that RN prescribing will improve access to timely and appropriate care, specifically in the areas of palliative care, wound care, and medication management. Employers also noted that new policies surrounding RN prescribing must promote interprofessional practice, ensure patient safety, and offer continuity between the nurse and the patient. System-level factors impacting the implementation of RN prescribing in Nova Scotia include, the crucial need for continuous support from health and regulatory organizations, as well as accessible and appropriate formal education. Healthcare organizations considering RN prescribing should have a strong interprofessional work environment, appropriate staffing, positive intraprofessional relationships, and physician support, as well as readiness for change. Other important factors include adequate peer support and strong RN/physician relationships.

Conclusion: This study provides policy makers with data that is essential for the successful implementation of RN prescribing. By addressing known barriers and focusing on patient care areas that can benefit from RN prescribing, these findings support policies that will positively impact Nova Scotian's access to timely and appropriate healthcare

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ID: 146

Author: Sarah Carsley

Title: Cost Utility Analysis of an Iron Deficiency Screening Program for Infants at 18 months

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Iron deficiency (ID) is the world's single most prevalent micronutrient disorder, particularly in children aged six months to three years, a critical neurodevelopmental period. Previous studies have shown untreated ID may result in cognitive impairment. The objective of this study was to examine the lifetime cost-utility of a hypothetical ID screening program for 18-month old infants during the enhanced 18-month primary care well-baby visit in the general population and a targeted high-risk population in Ontario.

Approach: A decision tree model was used to estimate the costs and quality-adjusted life years (QALYs) associated with three ID screening strategies, including (1) no screening; (2) a universal screening program; and (3) a targeted screening program for a high-risk population (defined as having ≥ 2 ID risk factors). A societal perspective was used and lifetime QALY gains were assessed. Healthcare and patient-borne costs were estimated using the Ontario Health Insurance Plan (OHIP) Laboratory Services Schedule and experts' opinions. Effectiveness estimates were based on clinical trial data and published studies. One-way and probabilistic sensitivity analyses were performed to assess parameter uncertainty.

Results: Compared with no screening, the cost to society of a universal and a targeted screening program for ID is \$2356/QALY and \$2450/QALY, respectively. Using a willingness-to-pay threshold of \$50,000/QALY, both programs are cost-effective. Compared with a targeted screening program, a universal screening program costs an additional \$2251 to gain one QALY, rendering it a cost-effective option. The study findings were robust to extensive sensitivity analyses.

Conclusion: A universal screening program for ID was cost-effective over the lifespan compared to no screening (standard of care) and a targeted screening program for high-risk infants only. Ontario policy makers, pediatricians, and family physicians should consider expanding the current enhanced well-baby visit at 18 months to include iron deficiency screening.

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ID: 257

Author: Christine Cassidy

Title: Partnerships to Change Practice: Using an integrated knowledge translation approach to implement and evaluate nursing practice and policy changes

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite significant investment in health research, challenges remain in moving evidence into practice and policy. Integrated knowledge translation (IKT) aims to close this gap by promoting a collaborative model of research, where researchers and knowledge users work together to address complex health care problems. Over the past two years, our team of researchers, administrators and clinicians have used an IKT approach to design, implement, and evaluate nursing practice changes in acute pediatric care.

Approach: We use the Knowledge to Action Cycle as a framework to guide our implementation and evaluation projects. Our team first identifies the practice issue based on a review of patient and health system outcomes and selects an intervention from the empirical literature. Next, we use the Theoretical Domains Framework and i-PARIHS Framework to conduct a pre-implementation barriers assessment and tailor implementation strategies to the local context. Post-implementation, we use quantitative and qualitative methods to build an understanding of how the intervention is used in practice and evaluate the impact and sustainability of the intervention on patient and health system outcomes.

Results: We have used this IKT approach to implement three interventions on one pediatric inpatient unit, including a new model of care, early warning system, and handover tool. Similar factors influenced all implementation projects, regardless of the type of intervention, including the impact on clinical decision-making and interprofessional relationships. We are using this approach with two additional implementation projects on other units in the hospital. We are starting to see different contextual factors influencing implementation, including the unit's culture of nursing practice, patient population, and physician buy-in. Future evaluation of administrative data using interrupted time series analyses will give us a better understanding of the impact and sustainability of the interventions on patient and health system outcomes.

Conclusion: Our theory-based, IKT approach has led to the development of relevant practice change questions for knowledge users and findings tailored to the practice setting. Additional research is needed to understand our partners' experiences with IKT and the sustainability of this partnership for implementing and evaluating future nursing practice changes.

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Author: PMPRB CEPMB

Title: Uncovering the Forces Driving Costs in Canada's Public Drug Plans

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canadian public drug plans finance the largest component of prescription drug expenditures in Canada. In 2017/18, expenditures for the provincial plans (except Quebec) and the NIHB combined topped \$11 billion, with drug costs growing by over 6%.

Approach: Based on public drug plan data from the Canadian Institute for Health Information's NPDUI Database, this presentation provides a detailed examination of the shifting pressures driving the growth in drug costs, differentiating between transient cost pressures and those contributing to a longer lasting effect. The analysis focuses on the 2017/18 fiscal year and provides a retrospective look at recent trends.

Results: The increased use of higher-cost medicines, including DAA drugs for hepatitis C, have been a primary driver of drug cost growth in recent years. In 2017/18, half of the top contributors to the annual growth were drugs costing over \$10K per year. These high-cost medicines now account for over one third of total drug costs, although they are used by less than 2% of beneficiaries.

While the pressure from higher-cost drugs continues to increase, the savings from generic substitutions and price reductions are gradually declining, reaching a new low in 2017/18. Meanwhile, biosimilar substitutions, which offer the potential for future cost savings, have only had a very modest impact to date.

Conclusion: A greater understanding of the forces driving expenditures in Canadian public drug plans will enable policy-makers and stakeholders to better anticipate, manage and respond to evolving cost pressures and inform discussions on longer term system sustainability.

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ID: 179

Author: PMPRB CEPMB

Title: Pressures Behind the Rising Costs in Canadian Private Drug Plans

Type of Abstract: Oral Presentation: Standard

Background and Objectives: After years of low rates of growth due to generic entry and price reductions, drug costs in private plans have grown at a solid rate over the last five years. This presentation sheds light onto the key cost pressures, differentiating between short-term effects and those contributing to a longer lasting impact. The presentation will also touch on the differences and similarities in cost pressures between the public and private payer markets.

Approach: Using IQVIA Private Drug Plan data, the analysis isolates five main factors contributing to the growth in drug expenditures: demographic, volume, price, substitution (generic and biosimilars) and drug-mix effects. It focuses on 2018, with a retrospective look at trends over the last decade.

Results: Recent trends in private plans point toward a marked increase in drug costs driven largely by the increased use of newer and more expensive drugs. Meanwhile, cost savings from generic and biosimilar substitution, as well as price reductions, have stabilized in recent years and are no longer offsetting the increasing cost pressures from demographic and drug-mix change. The varying effect of DAA drugs for hepatitis C may reflect the overall market adjustments of these relatively new drugs as well as evolving reimbursement policies and prescribing practices.

Conclusion: A greater understanding of the forces driving expenditures in private drug plans in Canada will inform policy discussions on system sustainability and aid private plans in anticipating and responding to evolving cost pressures.

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ID: 181

Author: PMPRB CEPMB

Title: Select Anti-Asthmatics in Canada: Locked on High Prices

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Asthma is a high-prevalence condition in Canada, affecting more than three million people and generating over \$1 billion in annual drug sales. This analysis focuses specifically on combination inhalers for long-term asthma control, a sub-class of medicines that makes up half of total anti-asthmatic drug sales.

Approach: This study provides insight into the issues surrounding this class of anti-asthmatics, reporting on sales, utilization, and price trends in Canada and internationally, including the seven countries the Patented Medicine Prices Review Board considers when reviewing the prices of patented medicines, as well as other Organisation for Economic Co-operation and Development (OECD) countries. Capturing data from the Canadian Institute for Health Information (CIHI) NPDUIS Database and IQVIA MIDAS™ and Private Drug Plan databases, the analysis centres on 2017 and provides a retrospective look at trends since 2012.

Results: Unlike other therapeutic classes dominated by blockbuster drugs, combination inhalers have not experienced the “patent cliff” phenomenon. Although the top-selling medications in this sub-class have reached the end of their patent life, no generic alternatives have been approved for market in Canada. Not only does Canada continue to pay brand-name prices in this space, but the prices we pay far exceed the levels prevailing in other countries. In fact, this sub-class tops the list of therapeutic areas with the greatest cost implications due to higher prices in Canada compared to foreign markets.

Conclusion: These findings will inform policy discussions on the price and reimbursement of these drugs at both the public and private payer levels.

All Authors: PMPRB CEPMB, Nevzeta Bosnic, Brian O'Shea

ID: 184

Author: PMPRB CEPMB

Title: Alignment of Oncology Drug Coverage Across Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Determining which drugs to cover is a key component in the development of a national pharmacare program in Canada. This study focuses exclusively on oncology drugs and explores the current gaps and overlaps among the provincial and federal public programs and private drug plans.

Approach: The analysis examines drugs reviewed by JODR and pCODR from 2007 through December 2017 for all submitted indications, and determines their coverage status as of September 2018 using pCODR drug reviews, public formularies, and Institut national d'excellence en santé et services sociaux (INESSS) recommendations. In conjunction with data from the Canadian Institute for Health Information (CIHI) NPDUIS Database and IQVIA MIDAS™ and Private Drug Plan database, the coverage rates were calculated for all 10 provincial public programs and for private drug plans. Comparative rates among the plans were also determined.

Results: The results show that oncology drugs in public formularies have relatively high listing rates, with some variations. British Columbia, Saskatchewan, and Ontario cover the highest percentage of oncology drugs analyzed (79%), followed by Manitoba (76%) and Alberta (74%). Listing rates in the remaining provinces are below 70%. When we consider the relative share of expenditures for each of the drugs, the proportion of coverage increases moderately. Similarly, the data suggests that 75% of the oncology drugs analyzed were available in the private drug plans in Canada.

Conclusion: The findings from this study will inform policy discussions related to the drugs that may be funded under various models of national pharmacare.

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ID: 186

Author: PMPRB CEPMB

Title: Biosimilars in Canada: Current Environment and Future Opportunity

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Potential savings from biosimilars is a subject of keen interest to Canadians, especially in light of the patent life extensions for biologics negotiated in the recent USMCA. Biosimilars offer an opportunity for significant cost reductions, as our annual national sales for biologics tops \$7 billion, or over 40% of all patented medicine sales.

Approach: Capturing data from various sources, including the IQVIA MIDAS™ Database, the FDA, EMA, and Health Canada, and GlobalData, this presentation compares the overall emerging Canadian market for biosimilars with our international counterparts. The analysis delves more deeply into the uptake, pricing, and the cost implications, for specific biosimilars, with a focus on the public drug plans. It also provides a glimpse into emerging biosimilar medicines in the pipeline.

Results: While the international experience has many success stories, marked by early biosimilar entry, healthy competition amongst the manufacturers, and sizable discounts and uptake, domestically the market dynamics have been less encouraging. In Canada, biosimilar uptake and approval rates, as well as competition among biosimilars, lags well behind Europe. For example, in the last quarter of 2017, the uptake for infliximab biosimilars in Canada was only 4%, compared to a median of 34.5% for the OECD.

Conclusion: As the historic savings from generic price reductions and substitutions begin to wane, the potential savings from biosimilars could play an increasing role in offsetting rising drug costs. This overview will uncover the current gaps as well as the potential savings from aligning the Canadian uptake and pricing of biosimilars.

All Authors: PMPRB CEPMB, Jared Berger

ID: 187

Author: PMPRB CEPMB

Title: Generic Drug Pricing in Canada: Closing the Gap

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canada has one of the strongest generic markets in the industrialized world, with the second highest per capita spending in the OECD(Organisation for Economic Co-operation and Development), yet Canadian generic drug prices have traditionally been much higher than international levels.

Approach: IQVIA MIDAS™ data from the second quarter of 2018 is used to examine the latest trends in Canadian generic drug sales, utilization, and pricing within an international context, highlighting the market segments targeted by policy changes. International trends and price comparisons include the seven countries the PMPRB considers when reviewing the prices of patented medicines, as well as other OECD countries.

Results: In April 2018, a new five-year joint initiative between the pan-Canadian Pharmaceutical Alliance (pCPA) and the Canadian Generic Pharmaceutical Association came in effect, aimed at reducing the prices of 70 of the most commonly prescribed generic drugs to as low as 10% of their brand-name equivalents. This presentation uncovers the latest findings on the impact of this initiative, measuring its success in closing the gap between Canadian and international prices. The findings report on the extent to which generic prices have declined domestically and underscore the importance of generics in Canadian and foreign markets.

Conclusion: This presentation aims to provide stakeholders with an assessment of the change in Canadian generic prices relative to international levels before and after the implementation the most recent pCPA initiative, informing decision makers on the effects of these policies on payers across the market.

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ID: 188

Author: PMPRB CEPMB

Title: Oncology Drug Market: A High-Growth, High-Price Therapeutic Area

Type of Abstract: Oral Presentation: Standard

Background and Objectives: With cancer rates on the rise, the drug development pipeline is dominated by oncology products, promising hope to patients and clinicians seeking access to medication for the fatal disease. The increased need for cancer products is turning oncology into a high-growth, high-price therapeutic area, fueled by the inflow of new drug launches with price tags that are continually reaching new highs.

Approach: This presentation examines the trends in availability, pricing, and sales in Canadian and international oncology markets, highlighting major cost drivers. The study reviews oncology drug approvals from Health Canada, the FDA, and the EMA, analyzes pricing and sales data from IQVIA's MIDAS™ Database, and reports on pan-Canadian Oncology Drug Review assessments. International markets examined include the countries in the Organisation for Economic Co-operation and Development (OECD).

Results: Oncology is the second top driver of pharmaceutical spending in Canada, with sales more than doubling over the last decade and prices rapidly climbing. 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. More new cancer drugs are used in combination with existing products or as part of multiple regimens, contributing to the rise in treatment costs and adding to the challenges around reimbursement decisions. The fast-growing costs of treating cancer are not always matched by clear therapeutic benefits, as many new oncology drugs only offer limited therapeutic benefit over existing treatments.

Conclusion: This analysis responds to a growing need to better understand and document the evolving oncology market, and provides decision makers, researchers, and patients with valuable insight into relevant market dynamics from a Canadian and international perspective.

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ID: 472

Author: Monica Cepoiu-Martin

Title: Community Paramedics Program Evaluation Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In Canada's learning health systems, improving system integration by balancing acute and specialty care with community-based health services is a priority. Community Paramedicine is an innovative concept in care based on expanding the role of paramedics to provide safe, timely, mobile medical care in the community setting. The objective of this study is to evaluate the impact on health services utilization of the Community Paramedics Program (CPP) in a population of cancer patients.

Approach: We are using an interrupted time series (ITS) approach to analyze the effect of the CPP on the outcome measures (ED visits, hospitalizations, EMS calls and mortality). This study targets patients aged 18+, residing in Calgary and diagnosed with head and neck, lung, gastrointestinal, breast or hematological cancer between January 1, 2013 and December 31, 2017. The study population is defined in the Alberta Cancer Registry (ACR) and the records are matched using the Patient Health Number (PHN) and other identifying characteristics to records in other administrative databases (ARIA Medical Oncology, DAD, NACRS and the EMS).

Results: While the results are not yet available, we expect a significant reduction in the number of ED visits in this population, with a moderate decrease of hospitalizations. Within six months of the program initiation, 353 patients with cancer benefited from care in their homes. This number doubled in the following six months. In 2016, this service has saved over 1534 visits to the cancer center, increased capacity in the treatment area and prevented patients from accessing emergency departments.

Conclusion: CPP is an innovative concept in care based on expanding the role of paramedics to provide safe, timely, mobile medical care in the community setting. Our study uses advanced statistical methods to assess the safety and effectiveness of this new concept in community care.

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ID: 106

Author: Caroline Chamberland-Rowe

Title: Planning for equitable access to choice of maternity care provider across the Champlain LHIN

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Evidence of unmet demand for midwifery services within the Champlain Local Health Integration Network (LHIN) has raised local concerns regarding women's access to their maternity care provider of choice. This project aims to engage local stakeholders in Ontario's Champlain LHIN in a collaborative health human resource planning process to elicit the structural conditions that would be necessary to equitably support women's access to the full range of maternity care providers.

Approach: This project adopts a community-based participatory research approach using a mixed methods design, and encompasses two major components:

- 1) a quantitative geospatial mapping exercise to assess women's access to the full range of maternity care providers across the Champlain LHIN and identify any persistent inequities in women's access on the basis of geography and, or, socioeconomic marginalization; and
- 2) a qualitative participatory system dynamics modelling exercise employing individual and focus groups interviews to explore the factors that are enabling or restricting choice of maternity care provider at the local level, and identify locally-relevant policy solutions to address barriers of access.

Results: The geospatial analysis will enable the identification of underserved areas where women's choice of maternity care provider is restricted by issues of health human resource service capacity and, or, geographic access. The system dynamics modelling exercise will enable the production of a regional stock and flow diagram representing a cohesive and dynamic model of the interacting workforce, organizational, and system-level factors affecting women's autonomy in choosing a maternity care provider within the Champlain LHIN. Together, these complementary exercises will build upon the existing body of knowledge on the health human resource implications associated with achieving equitable, appropriate, and effective coverage of maternity care services. They will also contribute to our understanding of the social, political, economic, and geographic factors shaping women's reproductive autonomy and choices.

Conclusion: This project will present innovative methods that leverage promising practices in health human resource planning to address key challenges in the field and provide decision-makers within the Champlain LHIN with evidence to support better alignment of health human resource supply, distribution, and mix with women's choices and needs.

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Author: Leigh Chapman

Title: 'Separate estates' in hospital-based health human resources: exploring competency assessment of regulated health professionals

Type of Abstract: Oral Presentation: Standard

Background and Objectives:

- describe competence as a critical component in hospital health human resources
- share findings from an exploratory qualitative case study about competency assessment in a large organization
- analyze how distinctions between physicians and other regulated health professionals in healthcare workplaces is problematic

Hospital workforces are typically comprised of unionized and non-unionized regulated health professional employees and appointed staff, such as physicians. These distinctions create 'separate estates' which impede competency assessment, interprofessional practice and collaborative, team-based care.

Approach: This presentation will describe findings from a qualitative case study of competency assessment. The study explored how competency assessment processes and practices were understood and enacted by regulated health professionals in a Canadian academic hospital. I was particularly interested in how the process of individuals' competence was enacted and how administrators and other regulated health professions understood, perceived and experienced organizational competency assessment. I was deeply interested in the impact of context on competency assessment; an interest that was reflected in the use of a theoretical framework from organizational behaviour which contextualized competence as one component of effective performance.

Results: This qualitative case study explored participants' understanding of competency assessment processes and practices in an academic hospital, through analysis of key informant interviews, focus groups and organizational documents. In constructivist research, participants' answers do not reveal an unquestionable 'truth' but rather, contribute towards a better understanding of the phenomenon of interest – that is, competency assessment within an academic hospital. What I found were a variety of ways that competency assessment was understood and possibly misunderstood; how organizational structures such as professional practice and interprofessional dynamics divided different groups and resulted in these groups functioning as separate estates; and how these findings make conversations about competency assessment at an organizational level at the study hospital very difficult.

Conclusion: Competence of regulated health professionals is a key component in hospital-based health human resources. Yet, differences in the employment status of the hospital workforce created marked separations between the professions. These 'separate estates' hindered organizational competency assessment, interprofessional practice and collaborative, team-based care.

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ID: 441

Author: Kathleen Charlebois

Title: The design of a qualitative research strategy for a network initiative aimed at service improvement in youth (11-25 years) mental health: the ACCESS Open Minds (OM) initiative

Type of Abstract: Oral Presentation: Standard

Background and Objectives: This presentation focusses on a qualitative research design strategy within a youth mental health initiative ACCESS Open Minds (ACCESS OM-Esprits ouverts), designed as a systemic response to improving youth mental health services through service transformation, stakeholder engagement and evaluation. With its 14 urban, rural and Indigenous sites providing youth mental health services, it prioritizes various stakeholders' input (youth, families, clinicians, researchers, service providers and decision-makers) in service delivery as well as in evaluation.

Approach: ACCESS OM service transformation comprises five major objectives considered key to improving youth mental health services (early identification, rapid access for a first assessment, continuity of care across the age spectrum, appropriate care within 30 days and youth/family engagement). ACCESS OM also comprises a governance structure that includes national advisory councils (youth, family and Indigenous). The challenge lies in developing a project evaluation research strategy that recognizes the heterogeneity and identity of each site, along with practical and methodological considerations. The inclusion of stakeholders in the evaluation process becomes paramount in reconciling these concerns.

Results: Following extensive consultation around a qualitative strategy, including meetings and an e-survey, stakeholders identified challenges in applying the ACCESS OM model to implementing youth mental health services. This concern guided researchers' choice of the theoretical framework (Normalization Process Theory (NPT)) as well as case study design. The decision was made to conduct a single case study around the ACCESS OM model and discern common characteristics of implementation processes across sites and the specific contextual elements shaping those processes. A participatory approach will underpin data collection and analysis as stakeholders will play a role in interviewing participants (youth, families, clinicians, service providers, researchers, youth/family council representatives and decision-makers), a photovoice project and in coding the data.

Conclusion: Our hope is that this presentation will not only open avenues as to how best to craft a qualitative research strategy for an initiative like ACCESS OM by involving stakeholders and incorporating them into the research process, but also highlight the interdependency between research, service implementation and stakeholder engagement.

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ID: 218

Author: Julie Chartrand

Title: How do pediatric patients and their parents perceive patient involvement in the assessment of nursing students' during their pediatric clinical practicum?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Since pediatric nursing is moving towards a patient partner approach, patient involvement in Nursing education is being increasingly discussed among health professionals, educators and administrators. Studies related to patient involvement in pediatric nursing education are scarce and do not explore patient involvement in nursing student assessment. Hence, this study explored older children's and their parents' experiences and perceptions of patient and parent involvement in the assessment of nursing students during their pediatric clinical practicum.

Approach: A two-phase, sequential mixed-methods design, which includes the collection of quantitative and qualitative data to understand patients' and parents' potential involvement in the assessment of nursing students' pediatric clinical practice. Phase I involved surveys of patients admitted to the Children's Hospital of Eastern Ontario (CHEO) (>13 years old), parents; and of University of Ottawa nursing students and clinical instructors. In phase 2, semi-structured phone or in-person interviews were conducted with a subgroup of Phase I participants to gain a deeper understanding of their perception of patient involvement in assessing nursing students' pediatric clinical practice.

Results: This presentation will solely report on Phases I and II patient and parent. In phase I, 74 paper surveys (patient n=22 and parents n=52) were completed. Responses revealed that although the majority of patients and parents have not yet been involved in the assessment of nursing students during their pediatric clinical rotation, they are inclined in taking part in it. They also consider their view of nursing students as important to a moderate to great extent. Phase 2 findings show that patients and students generally view their involvement in the nursing students' clinical assessment as beneficial especially to nursing students' learning and performance and to patients' and parents' empowerment. Reported factors facilitating patient and parent involvement include setting clear expectations and providing resources and guidance.

Conclusion: This study provides insight into how patients and parents perceive their current and potential involvement in nursing student clinical assessment. It also sheds light on potential benefits, challenges, facilitating factors and potential strategies related to the integration of patient and parent involvement in nursing student assessment in pediatric clinical settings.

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ID: 376

Author: Dan Chateau

Title: Health and Social Service Use of children transitioning out of Child and Family Services custody

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Many services provided by, or funded by, government agencies specifically target pediatric populations (<18). Access to these services is typically cut off once a person is considered an adult. This study will examine change in care associated with the transition out of the custody of Child and Family Services in Manitoba.

Approach: Using the Manitoba Population Research Data Repository housed at MCHP, we identified individuals in the custody of CFS at their 18th birthday through a comprehensive population database of families receiving services, from 2005/06 to 2014/15. Physician visits, specialist visits, hospitalizations, prescription drug use, income assistance, social housing, and involvement with the criminal justice system were examined in the two years before and two years after the transition. We were also able to identify individuals who had taken part in transitional planning program, who were eligible to remain in CFS and receive supports for an additional 1 -3 years.

Results: 4,465 individuals were identified in the cohort, including 2828 permanent wards. Of these 1,674 participated in the transitional planning extension in care. For children in care, physician visit rates increased after the transition, while an index of continuity of care actually decreased, and visits with specialists also decreased. While overall psychotropic drug dispensations saw a modest, but significant decline, there were large significant increases in dispensations of anxiolytics (especially lorazepam) and opioids. Interestingly, while the rates of criminal accusations decreased for this cohort, the rates of being the recorded victim of a criminal incident increased significantly. For the most part, outcomes were better for individuals in the transitional planning program.

Conclusion: The transition from child to adult status for those in the care of CFS can have a significant impact on health care service use and provision, and social service and involvement in the criminal justice system. Pharmaceutical drug dispensation patterns may be of particular concern for this population.

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Author: PEGGY PEI-CHI CHI

Title: Instrument Development to Measure the Designs of and the Exposures to the Natural Environments in Long-Term Care Homes Among Residents and their Care Staff

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The natural environment (NE) in healthcare is significantly and positively associated with health and work outcomes. The NE is an escape from the clinical environment. This area of research is novel in Canadian long-term care (LTC), and there are no validated surveys by which to measure NE's designs and usages in LTC homes for rigorous evidence. Therefore, this presentation will describe the content and linguistic validation results of two surveys under development.

Approach: In a modified Delphi technique, contents such as domains, subdomains, and items of the surveys were finalized by expert consensus in a series of rounds. Through purposive sampling, 24 of the 39 invited experts participated. Only the domains, subdomains, and items rated as "very" or "extremely" important/ appropriate by a minimum 70% of the experts were included in the surveys. Thematic analysis of comments further clarified subdomains, items, and the wordings. Linguistic validation will be finalized before the conference dates through cognitive debriefing among the targeted respondents (n=30; i.e., personal support workers, nurses, facility managers, and recreational coordinators).

Results: Sunlight and nature are the domains. Themes such as sunlight vs. daylight, control, weather, and wording were thoroughly discussed. The Natural Environment Design (NED) Survey will measure the NE designs in common spaces and exposures to the NE in resident activities. The NED survey has 20 included subdomains (21 omitted). For example, "view out of the main windows" is subdomain; "When I look out of the main window what do I see?" is an item. The Natural Environment Usage (NEU) Survey will measure the care staff's exposures to, usage of, and perceptions of the NE. The NEU survey has ten included subdomains (three omitted). For example, "Daylight and me" is a subdomain; "I walk by windows while I am working" is an item.

Conclusion: The time is ripe to create health-promoting LTC environments under Ontario's ten-year redevelopment strategy. As a licensed landscape architect and health services researcher, I am aware that validated instruments are needed for rigorous evidence in this growing area of research in LTC homes to inform imminent environmental designs and standards.

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Author: Ashley Chisholm

Title: When policy meets practice: The implications of the legalization of non-medical cannabis for nurses in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Background: In preparation for the October 2018 legalization of non-medical cannabis in Canada, the Canadian Nurses Association (CNA) conducted research to influence policy development and prepare nurses for this wide-spread policy change.

The objectives of the following presentation are:

- To provide an overview of CNA's approach to non-medical cannabis policy in Canada
- To describe implications for registered nurses and nurse practitioners in Canada
- To determine areas of opportunity moving forward

Approach: In 2017, to inform the CNA policy work on the legalization of non-medical cannabis, CNA engaged with nurses using a national survey to assess their knowledge on non-medical cannabis use and inform the response to Bill C-45. In addition to surveying nurses, CNA commissioned a study, by Nanos research, to assess Canadians self-reported knowledge level of the risks and harms associated with non-medical cannabis use and the role of nurses to educate the public on risks and harms associated with non-medical cannabis use.

Results: Over 90% of Canadians support nurses educating Canadians on the risks and harms associated with recreational cannabis use. Despite the public's strong support that nurses are well positioned to educate Canadians on risks and harms associated with recreational cannabis use, only 62.8% of RNs and NPs report themselves as knowledgeable. As Canada moves forward with legalization of non-medical cannabis, there is consensus from health organizations that a robust public education campaign is necessary to prepare the public for this new policy direction.

Conclusion: While CNA has advocated for such a public education approach, we maintain that adequately preparing Canada's nurses is an essential component of such an approach.

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ID: 618

Author: Ashley Chisholm

Title: Nurses Leading Evidence-based Quality Improvement: An example through the development of three Choosing Wisely Canada lists for nurses

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The Canadian Nurses Association (CNA) partnered with Choosing Wisely Canada (CWC) to lead the development of the first non-medical list in Canada for nurses. Since the inaugural nursing list in 2016 two specialty lists for nurses have been developed including a list on infection prevention and control in 2017 and a subsequent nursing list in gerontology in 2018.

Approach: Framed as a series of “don’t” statements, the lists of nurse-developed evidence-based recommendations serve as a resource to inform nurse-client conversations about tests, treatments or interventions which lack benefit or cause harm. This presentation will highlight the significance of CWC’s engagement with CNA as a means to expand the campaign and its evidence-informed recommendations and tools to a broader health-care community, potentially enhancing the ability to positively impact a greater number of patients. In addition, we will provide an overview of the development of the nursing list, describe the appraisal tool, and Delphi process for appraisal used by expert

Results: The development of the inaugural Choosing Wisely Canada nursing list and the two specialty lists provides an example of how nursing leadership and expertise can be leveraged to develop nurse-informed resources as a tool to embed evidence into practice and influences quality and safety at point of care. Nurses are the largest group of care providers in Canada, often a patient’s first and most prolonged contact with the health care system, and key participants in team-based care.

Conclusion: Nurses need to lead and be informed on evidence-based practices as they play a pivotal role in quality improvement activities in the health care system including: supporting and engaging with patients in conversations about tests, treatments, procedures, and policy development.

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Author: Junior Chuang

Title: Alcohol Hospitalizations across Canada's Large Urban Centres: Examining variations in Income-related Inequalities

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Alcohol harm is a leading cause of injury and death in Canada. In 2015–2016, there were about 77,000 hospitalizations entirely caused by alcohol compared with about 75,000 for heart attacks. This collaborative project with the Urban Public Health Network, uses CIHI's Hospitalizations Entirely Caused by Alcohol indicator to examine how income inequalities vary across and within Canada's large urban centres. Since 1982, Calgary, Vancouver and Toronto have seen the greatest increase in income inequality.

Approach: CIHI's Hospitalizations Entirely Caused by Alcohol indicator results were pooled across two years (FY2013–2014 to FY2014–2015) and linked with neighbourhood income quintile and geography data based on patient postal codes using Statistics Canada's Postal Code Conversion File Plus. Age-standardized rates were calculated, and income-related health inequalities summarized, using rate ratios (RR) and rate differences (RD), to examine the relationship between alcohol harm and neighbourhood income quintile (IQ). Results were reported at the Census Metropolitan Area (CMA) (e.g. Greater Toronto Area) and Census Subdivision (CSD) (e.g. Richmond Hill) levels to enable comparisons across and within Canada's large urban centres.

Results: CMA alcohol harm rates ranged from 103 (Toronto) to 310 hospitalizations (Regina) per 100,000 people. Across CMAs, an income gradient was observed, with highest rates for people from the lowest neighbourhood IQ. Toronto had the lowest relative inequality for with a RR of 2.2 (RD:106 per 100,000 people) and Edmonton the highest at 7.4 (RD: 614 per 100,000 people). There was great variation in rates and inequality within the Toronto CMA. Rates ranged from 36 (Richmond Hill) to 240 hospitalizations (Orangeville) per 100,000 people. The rate for people from the lowest neighbourhood IQ was 14 times higher in Oakville (RD: 662 per 100,000 people) and 9 times higher in Richmond Hill (RD:159 per 100,000 people) than for people from the highest neighbourhood IQ.

Conclusion: Large income-related inequalities exist in the rates of Hospitalizations Entirely Caused by Alcohol across Canada's large urban centres. Integrating these local level results with other local data (e.g. alcohol outlet density) may provide further insight for the prevention of alcohol harm and support evidence-informed policy planning and decision-making.

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ID: 514

Author: Junior Chuang

Title: Examining Early Childhood Oral Health Across Canada's Large Urban Centres: Rates and Income-related Inequalities in Day Surgery for Dental Caries

Type of Abstract: Oral Presentation: Standard

Background and Objectives: While dental caries are preventable, 19,000 day surgery operations are performed annually for cavities (due to caries) among young children, raising concerns that not all children benefit from prevention strategies and restorative practices. Since 1982, Calgary, Vancouver and Toronto have experienced the greatest increase in income inequality. This project with the Urban Public Health Network examines how income inequalities in the rates of day surgery for early childhood caries vary across and within large urban centres.

Approach: This project linked day surgery data for Early Childhood Caries (ECC) (ages 1-5), pooled across five years (2011-2015), with neighbourhood income quintile and geography data using patient postal code and Statistics Canada's Postal Code Conversion File Plus. Age-standardized rates were calculated and income-related health inequalities summarized using rate ratios (RR) and differences (RD) for large urban centres (outside the province of Quebec). Results were reported at the Census Metropolitan Area (CMA) (e.g. Greater Toronto Area) and Census Subdivision (CSD) (e.g. City of Toronto) levels.

Results: At CMA and CSD levels, wide variation in rates were observed. CMA rates ranged from 217 day surgery operations in Edmonton to 2,259 in Saskatoon per 100,000 children. Within the Edmonton CMA, CSD rates ranged from 111 day surgery operations per 100,000 children in Leduc to 283 in Leduc County.

An income gradient (rates being highest for people from the lowest neighbourhood income quintile) was also observed at both levels. RRs ranged from 1.6 in the Toronto CMA to 6.1 in the Winnipeg CMA (RD: 140 day surgery operations in Toronto; 1,081 in Winnipeg, per 100,000 children). Within the Toronto CMA, RRs ranged from 0.9 in Brampton to 6.0 in Richmond Hill (RD: -37.5 day surgery operations in Brampton; 1,182 in Richmond Hill, per 100,000 children).

Conclusion: These results demonstrate income-related inequalities in rates of day surgery for ECC in large urban centres. They build on evidence showing large inequalities in oral health and access to oral health care across social groups, and highlight the need for action that addresses gaps in oral care for low-income children.

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Title: Chronic Obstructive Pulmonary Disease (COPD) Hospitalizations across Canada's Large Urban Centres: Variations and Trends in Income-related Inequalities

Type of Abstract: Oral Presentation: Standard

Background and Objectives: COPD is a leading cause of morbidity and mortality. Hospitalizations for COPD patients aged 74 years or younger are potentially avoidable with appropriate and effective primary care and tend to be higher in low income populations. Since 1982, Calgary, Vancouver and Toronto have seen the greatest increase in income inequality. This project with the Urban Public Health Network, examines over time, how income inequalities in COPD hospitalization rates vary across and within large urban centres.

Approach: CIHI's COPD Hospitalizations for Canadians Younger Than Age 75 indicator results were pooled in five-year intervals (2006-2010, 2011-2015) and linked with neighbourhood income quintile and geography data based on patient postal codes using Statistics Canada's Postal Code Conversion File Plus. Age-standardized rates were calculated, and income-related health inequalities summarized, using rate ratios (RR) and rate differences (RD), to examine the relationship between rates of COPD hospitalization and neighbourhood income over time. Results were reported at the Census Metropolitan Area (CMA) (e.g. Greater Toronto Area) and Census Subdivision (CSD) (e.g. City of Toronto) levels.

Results: The analysis is the first to examine trending of inequality at a local level based on hospitalization data. The results demonstrates that over time (between 2006-2010 and 2011-2015) COPD hospitalization rates were similar across the CMAs, however the inequalities in COPD hospitalizations (the highest rates were for people from the lowest neighbourhood income quintile) remained the same or widened. For example, the hospitalization rate for the Victoria CMA was 62 hospitalizations per 100,000 people in 2005-2010 and 65 in 2011-2015. However, the RR for Victoria increased from 4.4 (RD: 98 hospitalizations per 100,000 people) in 2006-2010 to 9.1 in 2011-2015 (RD: 142 hospitalization per 100,000). Inequalities in COPD hospitalizations also varied within CMAs where CSD-level inequality also remained the same or widened over time.

Conclusion: Results demonstrate persistent or widening income-related health inequalities in COPD hospitalizations in large urban centers over time. Integrating these local results with other contextual data may provide further insight to help guide communities in targeted health care planning to improve quality of care, access and outcomes for low income populations.

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ID: 501

Author: Aislinn Conway

Title: Leveraging research to impact patient care and local clinical practice guidance: a knowledge translation initiative from Ireland

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Delays and gaps in the translation of research into practice and policy can have a negative impact on patient care. Our objectives were to plan, design and implement a knowledge translation initiative for healthcare professionals, to report data relating to user engagement, to gather follow up information regarding impact on clinical practice and guidance and to gain an understanding of the perceptions of the target audience about the initiative and their preferences for future programs.

Approach: Our program called Evidence Rounds centered around interprofessional educational sessions to disseminate evidence and promote evidence-informed practice and was delivered in collaboration with an implementation team of healthcare professionals. Lavis's organizing framework for knowledge transfer was used to describe our implementation strategy. We used the TIDieR checklist to describe the initiative. We gathered attendance figures and web analytics from our dedicated website to assess user engagement. Follow up with the implementation team 3, 16 and 21 months post-initiative allowed us to gather information on impact. Focus groups and interviews were conducted to explore the perceptions of attendees and presenters.

Results: Six educational sessions presented by 18 health care professionals took place over a nine month period with 148 attendances of which 85 were unique (individuals who attended at least one session). During the period spanning from one month before, during and one month after the running of the group sessions, 188 unique visitors, 331 visits and 862 page views were recorded on our website. Follow up with the implementation team demonstrated impact on clinical practice and local guidance. Our focus groups and interviews revealed the importance of involving individuals who create guidance documents in these types of initiatives.

Conclusion: Tailored KT strategies have the potential to lead to changes in the delivery of patient care and improvements to clinical guidance. Achieving sustainable programs can be challenging without dedicated resources such as staffing and funding.

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Author: Sarah Cooper

Title: CAN PRIMARY CARE AND CONTINUITY OF CARE PREVENT ASTHMA-RELATED ED USE AND HOSPITALIZATIONS IN CHILDREN?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Continuity of care, the frequency of patient healthcare provider interactions, may improve asthma outcomes. In Quebec, children are followed in family medicine groups (FMGs), family physicians not part of FMGs or by pediatricians. We sought to determine among Quebec children with asthma: 1) association between asthma acute outcomes (ED visits and hospitalizations) and having an assigned primary care provider; and 2) association between continuity of care with a primary care provider and asthma acute outcomes.

Approach: Design/Setting/Patients or other participants: Population-based retrospective cohort study using provincial health administrative data from 2010-2013 of children with administratively defined asthma aged 2-16 years old (N=39341)

Main exposure: Primary care model (FMGs, non- FMGs, pediatricians, no primary care)

Secondary exposure: Usual Provider of Care Index (high, medium, low)

Confounders: Age, gender, rurality, socioeconomic status (SES) quintiles, previous health utilization (asthma-specialist visits, ED visits, hospital admissions).

Outcomes: Asthma- related ED visits (main outcome), asthma- related hospital admissions (secondary outcome). We used multivariate logistic regression analyses to test associations between exposures and outcomes.

Results: Overall, 17.4% of children with asthma were not followed by a primary care provider. The majority were followed by a pediatrician (34.9%). Children who had high continuity of care were more likely to be followed by a pediatrician. Compared to no primary care, having primary care was associated with decreased asthma-related ED visits (Pediatrician OR: 0.80 [0.73, 0.89], FMGs OR: 0.84 [0.75, 0.93], non-FMGs OR: 0.92 [0.83, 1.02]) and hospital admissions (Pediatrician OR:0.67 [0.59, 0.76], FMGs OR: 0.83 [0.73, 0.94], non FMGs OR: 0.77 [0.67, 0.87]). Continuity of care was not significantly associated with asthma-related ED visits but compared to low continuity, medium or high continuity was associated with decreased asthma-related hospital admissions (Medium OR:0.81 [0.73, 0.90], High OR:0.72 [0.63, 0.82]).

Conclusion: Having a primary care provider is associated with reduced ED visits. For those who have primary care, low continuity may be associated with increased odds of asthma-related hospital admission. Our findings support the development of interventions and policies aimed at building and maintaining relationships between children with asthma and primary

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Author: Andrea Coronado

Title: Exploring the association of sociodemographic factors and socioeconomic status (SES) on cancer care and outcomes: Applications of a national, record-level data linkage strategy

Type of Abstract: Oral Presentation: Standard

Background and Objectives: There is increasing evidence on the relationship between socioeconomic factors, health outcomes, and access to health services. Most of this evidence is based on small area (e.g., neighbourhood income) analyses. For the first time in Canada, record-level cancer registry data has been linked with key national datasets, allowing researchers to better understand the associations between sociodemographic factors, cancer diagnosis and outcomes.

Approach: The record linkage was conducted at Statistics Canada within the Social Data Linkage Environment. Data from the Canadian Cancer Registry (CCR) were linked to the inpatient and ambulatory care hospitalization records (DAD and NACRS) and the Canadian Vital Statistics Death Database (CVSD) to obtain treatment information and death outcomes. To obtain sociodemographic information the following datasets were linked: T1 Family File (income), Immigrant Landing File (immigrant status, class and category) and the 2016 Census Long Form (education and ethnicity among other factors).

Results: About 2.2 million patients on the CCR were linked to DAD, 1.4 million to NACRS, and 3 million to T1 family file, between 1992 and 2014. Preliminary findings show poorer survival outcomes for the four most common cancers among lower-income populations compared with higher income. Lower-income patients are more likely to be diagnosed with later-stage cancer compared to higher-income patients. Differences in wait times from diagnosis to treatment and disparities in guideline concordant treatment practices between patients of high and low income will be available at the time of the conference. Additionally, changes in employment status and income following a cancer diagnosis will be examined across income groups.

Conclusion: Preliminary findings show that lower-income patients were more likely to be diagnosed at an advanced stage and have poorer outcomes than higher-income individuals. Final results from this study, and future analyses of other key sociodemographic factors (e.g., immigrant status) will provide a comprehensive picture on existing disparities experienced by patients.

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ID: 375

Author: Sarah Costa

Title: Considerations for the establishment of a community advisory to guide healthcare funding decisions in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: All sectors of healthcare face resource constraints. Decision-makers make fair but difficult decisions about how best to allocate limited health-care resources. Deliberative public engagement in the form of community advisories can help decision-makers develop publicly acceptable solutions to these challenging policy topics; however, instituting a community advisory can be challenging and costly. We have identified a number of key considerations to guide health system leaders in implementing an advisory in their province or institution.

Approach: We conducted document analysis of the grey literature on the topic of community advisories, as well as key informant interviews (n=12) with experts who have experience implementing community advisories in health care. A number of community advisories were identified as relevant to the research question, including those addressing issues at the local-level as well as national-level policies; having singular and ongoing formats; and those with regional- or national-level membership. Key insights and experiences with these advisories formed the development of a report intended for health system leaders in Canada for guidance on establishing a community advisory to address policy concerns.

Results: Ten key considerations were identified as important to establishing a successful community advisory, including: identifying the scope of the policy issue, including geographic scope; instituting a steering committee to help advise on topic selection for advisory meetings; early engagement of key stakeholders and decision-makers, including their openness to implementing the advisory's recommendations; a quality assurance process to avoid regulatory capture of the advisory; active management of the advisory to assist with coordination and to keep participant engagement levels high; and dedicated commitment of resources, including financial and staff, to ensure smooth operation of the advisory.

Conclusion: Deliberative forms of public engagement are increasingly becoming an acceptable and sought-after way of informing policy on complex social issues. This work provides health system planners and decision-makers with practical guidance and key insights to support the establishment of a community advisory for healthcare funding decision-making policies.

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Author: Élisabeth Côté-Boileau

Title: From performance management to capacity building for health system transformation: embracing relational work

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As part of the latest health system reform in Quebec (April 2015), the Ministry of Health and Social Services has mandated the implementation of Integrated Performance Management Systems (IPMS) province-wide. However, numerous studies have shown that mandated performance management tools (PMTs) tend to produce unintended effects and off-target performance results. Our research aims to understand how relational work contributes to the appropriation of mandated PMTs and fosters better alignment between visions, decisions and outcomes.

Approach: We are currently conducting organizational ethnographic case studies in two integrated health and social services centres (IHSSC) in Quebec. Each of the two cases embeds three governance levels: strategic, tactical and operational. While this study focusses on the tactical level of IHSSC, we pay attention to the interactions between all three governance levels. Data are collected through documents review (n=56), non-participatory observations (≈150 hours), and 3) semi-structured interviews with managers (n≈40). Data is analyzed using the process analysis approach, which allows us to understand how relational work interacts with the reform context to influence appropriation of IPMS.

Results: Preliminary results show that the influence of relational work in the appropriation of the mandated IPMS unfolds in three phases: 1) delivering performance, 2) building a collective identity, and 3) embracing a new vision. In phase 1, relational work allows managers to use the IPMS to develop new operational capacities oriented to deliver financial performance. Phase 2 shows that the IPMS serves as a proxy for generating new structural capacities through identity work. By developing new collaborations to root performance-oriented attitudes, beliefs and behaviors, managers became able to align IPMS design with performance goals. Phase 3 shows that relational work allows managers to develop conceptual capacities as they make sense of the IPMS as a tool to materialize a new vision of value-based performance management.

Conclusion: Preliminary results show that the influence of relational work in the appropriation of the mandated IPMS unfolds in three phases: 1) delivering performance, 2) building a collective identity, and 3) embracing a new vision. In phase 1, relational work allows managers to use the IPMS to develop new operational capacities.

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ID: 525

Author: Chantal Couris

Title: Getting to consensus on pan-Canadian indicators of access to mental health and addictions services and home and community care programs

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As part of the Common Statement of Principles on Shared Health Priorities, all governments in Canada agreed that reporting on a common set of indicators is important to assess improvements in access to mental health and addictions services and home and community care programs. The objective of this work was to develop a decision-making approach to enable consensus among stakeholders with diverse perspectives on priority indicators for public reporting.

Approach: A multi-step mixed methods approach guided consensus. It started with environmental scans of existing measurement and expert discussions to set guiding principles. It was followed by a modified Delphi approach and public consultation. Jurisdictional, sector stakeholders and measurement experts were engaged in the modified Delphi process to evaluate indicators based on agreed criteria. To complement results of the Delphi survey, a public consultation was undertaken through key informant interviews, online surveys and focus groups to understand priorities for the public. The final decision-making work group consisted of leaders in federal, provincial and territorial governments.

Results: The results of the environmental scan were validated with governments. Drawing on this information and the guiding principles, approximately 100 indicators per sector were organized into 6 to 7 measurement themes. Indicators were evaluated for relevance, impact, actionability, interpretability and readiness to provide an overall priority rating in the modified Delphi survey. Canadians shared their views through 10 focus groups held in 5 cities, with a total of 80 participants, and over 650 participants shared their views through an online survey. Results from the survey and public engagement were used for discussion with the decision-making group and to reach consensus on a set of indicators. Six indicators for mental health and addictions, and home and community care were included in the final recommended list.

Conclusion: We were able to use an evidence-based and unbiased process to bring in diverse perspectives and help decision-makers reach consensus on a common set of indicators. The indicators selected were endorsed by Health Ministers across the country and public reporting will start in May 2019.

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ID: 543

Auteur: Karine Couturier

Titre: Soins infirmiers palliatifs en centre d'hébergement : étude de l'influence de la pratique réflexive sur la perception de compétence

Type d'abstrait: Oral Presentation: Standard

Objectifs: Les centres d'hébergement sont le deuxième milieu de fin de vie des québécois, suivant les hôpitaux. Plusieurs études indiquent que les soins infirmiers palliatifs doivent y être développés. Selon la littérature scientifique, l'approche réflexive est une approche novatrice ayant des résultats positifs sur le développement professionnel des infirmières. Cette recherche a pour but de déterminer si une intervention de pratique réflexive influence la perception de compétence en soins palliatifs des infirmières en centre d'hébergement.

Approche: Un devis mixte a été sélectionné avec une méthodologie en trois étapes : 1) développement de l'intervention avec analyse de la littérature et consultation d'experts; 2) Mise à l'essai de l'intervention auprès d'un petit échantillon; et, 3) Évaluation de l'intervention à l'aide d'une approche quasi-expérimentale avant-après. L'intervention de pratique réflexive réalisée a consisté à 46 rencontres de 30 minutes, auprès de 20 infirmiers/infirmières, sélectionnés par un échantillonnage non probabiliste de convenance. L'intervention s'est déroulée sur une période de 4 semaines, dans deux centres d'hébergement québécois.

Résultats: 1) L'intervention de pratique réflexive a été développée et validée. Les modalités déterminées sont 8 rencontres de groupe de 2 à 5 infirmières, guidées par un mentor. 2) En outre, les analyses pré intervention ont montré que les infirmières se perçoivent compétentes dans les soins de fin de vie et dans leur connaissance des enjeux personnels et professionnels liés aux soins palliatifs. La perception de compétence moins développée est dans l'évaluation des besoins spirituels ainsi que dans les enjeux éthiques et légaux. Les infirmières ayant moins de 5 ans d'expérience ont une perception de compétence moins développée. 3) Enfin, les résultats après l'intervention indiquent que la perception de compétence en soins palliatifs des infirmières en centre d'hébergement est plus élevée ($p < 0,05$).

Conclusion: Mesurer la perception de compétence en soins palliatifs des infirmières en centre d'hébergement permet de cerner les besoins de formation continue et de développement professionnel, particulièrement auprès des novices infirmières. La pratique réflexive s'avère une approche novatrice prometteuse afin d'améliorer la compétence infirmière en soins palliatifs.

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Author: Chelsea Cox

Title: One-stream or Two-Stream? Legal and Policy Considerations for Maintaining a Separate Medical Cannabis Regulatory Framework in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Recreational cannabis is now legal across Canada. This presentation will provide the background to the current medical cannabis regime and the implications that the recreational market may, and currently is, playing in patient access. The objective is to raise central concerns should medical access be removed in favour of a solely recreational market.

Approach: The approach for this project involves jurisdiction scanning, legal consideration and analysis, and statute interpretation as related to cannabis and medical access. The approach also considers patient narratives and qualitative information relating to the medical cannabis market versus the recreational cannabis market.

Results: The removal of the medical access system will limit patient access, further stigmatization, incentivize recreational products over therapeutics, and raise legal concerns related to employment, tax schemes, and insurance.

Conclusion: Legal access to recreational cannabis is new in Canada, while legal access to medical cannabis is not. While the Federal Government has allowed a 5 year period for the medical access to continue before reconsidering that is not enough. Proactive measures should be taken to ensure patient access.

All Authors: Chelsea Cox

ID: 535

Author: Shawna Cronin

Title: How do respondents of primary care surveys compare to typical users of primary care? A comparison of two data collection methods

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient experience surveys are an important tool for the measurement of primary care performance, however, there is limited evidence on their representativeness of the patients and the general population. Data collection methods are crucial to this endeavour, and our objective is to compare two different primary care surveys to determine differences in the representativeness of patient respondents depending on whether survey respondents were recruited by practice staff or research staff.

Approach: This representativeness study included two surveys of primary care quality: the QUALICOPC survey, where surveys were given to staff to distribute to consecutive patients, and the TRANSFORMATION survey where patients were consecutively recruited by a researcher. Survey data was linked to databases at Ontario's Institute for Clinical Evaluative Sciences, and patient respondents of each survey were compared to patients who visited the physician on the survey recruitment day, and to patients who visited the physician on four randomly selected days throughout the year. Standardized differences were used to compare the sociodemographic characteristics, morbidity, and health care utilization of patients.

Results: The differences between characteristics of QUALICOPC respondents and other patients were negligible, whether these patients visited their physicians on the day of survey administration or on randomly selected days throughout the year. TRANSFORMATION respondents included a larger proportion of patients aged 45 to 64 and a lower proportion of patients with very high morbidity compared to patients who visited on the same day, and patients who visited on randomly selected days. The number of primary care visits among TRANSFORMATION respondents and other patients was negligibly different; however, TRANSFORMATION respondents had lower mean ED visits and acute care stays compared to other patients visiting the same physicians on the same day and randomly selected days, indicating that patients surveyed were relatively healthier than the comparison groups.

Conclusion: This study found that survey distribution by practice staff generated more representative respondent population than research staff. This difference may reflect a better knowledge of the patient caseload by the staff and suggest primary care quality surveys could improve their representativeness by relying on the practice staff for patient recruitment.

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ID: 413

Author: Liz Darling

Title: Barriers and facilitators of access to midwifery care for people of low socio-economic status: a qualitative descriptive study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Improving access to midwifery care was a goal of regulating and funding midwifery care in Ontario; however, people of low socio-economic status (SES) remain less likely to access midwifery care. Little is known about why this is the case and about how barriers to midwifery care can be mitigated. Our objective was to explore the barriers and facilitators to accessing midwifery care identified by people of low SES.

Approach: We conducted a qualitative descriptive study using semi-structured interviews with pregnant and post-partum people of low SES in Hamilton, Ontario. Participants were recruited through social media and local health and social service locations. We screened potential participants for eligibility to participate using questions about education, employment status, occupation, income support, and household income. A non-midwife research assistant conducted and digitally recorded individual interviews in person or by telephone. We managed transcribed interviews in NVivo software. Using Sandelowski's methods of qualitative descriptive analysis, the research assistant coded transcripts using open coding techniques and then the research team conducted thematic analysis.

Results: We interviewed 13 midwifery care recipients and 17 non-recipients of midwifery care. Four themes arose from the interviews: "I had no idea...", "Babies are born in hospitals", "Physicians as gateways into prenatal care", and "Why change a good thing?". Non-recipients of midwifery care had misconceptions and low levels of knowledge about midwives' scope of practice and education. Concerns about risk and safety led participants to seek physician care. Physicians are considered the entry point into the health care system, and few participants received information about midwifery from physicians. Recipients of midwifery care found it to be highly appropriate for people of low SES. Word of mouth was a primary source of information about midwifery and the most common reason for people to seek midwifery care.

Conclusion: Inequitable access to midwifery care for people of low SES is exacerbated by lack of knowledge about midwifery within social networks and a tendency to move passively through a system which traditionally favours physician care. Targeted knowledge mobilization efforts will be necessary to reduce disparities in midwifery care access.

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Author: Liz Darling

Title: Midwifery work to increase access to midwifery care for people of low socio-economic status: a qualitative descriptive study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Increasing access to midwifery care for disadvantaged groups was an explicit goal of the regulation of midwifery in Ontario. However, people of low socio-economic status (SES) remain less likely to receive midwifery care. Our objective was to identify strategies to improve access to midwifery care by exploring what midwives do to make midwifery care accessible to people of low SES and what barriers midwives face in working to increase access for this group.

Approach: We conducted a qualitative descriptive study using semi-structured interviews. We used purposive sampling to recruit Ontario midwives serving people of low SES. Interviews were conducted by a research assistant who is a registered midwife, and were digitally recorded and then professionally transcribed. Transcripts were analysed using NVivo software according to Sandelowski's methods of qualitative descriptive analysis. Two research assistants conducted the initial open coding, and then thematic analysis was conducted collaboratively by the principal investigator and the research assistants. The study had ethics approval.

Results: Our thirteen participants practice midwifery in settings ranging from a remote solo practice to a large urban practice. We identified two approaches to increasing access to care: 1) Working to maximize the existing beneficial aspects of the midwifery model to whoever presents to care, and 2) Stepping outside of the confines of the midwifery model, to provide what we call "community-centred care," in which midwives are both a part of and responsive to the broader communities that they serve. Aspects of the Ontario midwifery model that reduce barriers to care include mobile on-call care and relationship building. Barriers include the course of care funding structure, a shortage of providers, and a lack of training and mentorship in caring for clinically or socially complex clients.

Conclusion: The intentional, pro-active approach used by midwives providing community-centered care could be implemented more broadly to improve access to midwifery care for people of low SES. At a systems level, funding alternatives that support inter-professional collaboration and innovation in how midwifery care is delivered could also improve access.

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Author: Liz Darling

Title: Access to midwifery care in Ontario for people of low socio-economic status: findings from a quantitative study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Although public funding of midwifery care in Ontario was intended to increase access for people of low socio-economic status (SES), access to midwifery care based on SES has not been measured. The objectives of our research were 1) to examine whether the distribution of midwifery clients across SES quintiles changed between 2006 to 2017, and 2) to examine whether the current distribution across SES quintiles differs between midwifery care recipients and all other pregnant people.

Approach: We conducted two retrospective population-based studies using data from the Ontario Midwifery Program legacy database (2003-2012) and the BORN perinatal registry (2012-2017). The study population for our first objective included all Ontario midwifery courses of care from April 2006 to March 2017. The study population for our second objective included all Ontario residents who gave birth in Ontario between April 2012 and March 2017. We assigned neighbourhood level SES quintiles based on the Canadian Deprivation Index (CDI) and the Ontario Marginalization Index (OMI) using postal codes. Analyses were conducted in SAS 9.4 using descriptive statistics.

Results: The study populations included 1) 187,009 midwifery courses of care (2006-2017), and 2) 700,743 Ontario residents (2012-2017). Between 2006 and 2017 the proportion of Ontario midwifery clients in the most materially deprived (CDI) quintile increased from 15.6% to 18.0%, and decreased from 21.6% to 18.7% in the least deprived quintile. The number of midwifery clients in the most deprived quintile increased from 1611 in 2006 to 4175 in 2017. Midwifery clients were less likely than the rest of the population to be in the most materially deprived (CDI) quintile (18 % vs. 25% in 2017). This discrepancy varied regionally, being greatest in Toronto (21% vs. 30% in 2017). The SES distribution of rural midwifery clients is closer to that of the rest of the population.

Conclusion: Access to Ontario midwifery care for people of low SES has improved over time but remains inequitable. Given the potential benefits of midwifery for people of low SES, targeted efforts to reduce this inequity are warranted. Research about the barriers to midwifery care for this should inform these efforts.

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ID: 526

Author: Lisa De Panfilis

Title: Collaborating with Patient and Public Research Partners to Enable Meaningful Engagement in Research

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Researchers, policymakers, and research funders recognize the value and importance of patient and public partnership in health and social care research. Partnerships support alignment of research with public priorities, leverage their expertise and skills, and enhance potential for impact. The Aging, Community and Health Research team at McMaster University collaborated with older adults to explore existing resources to orient Patient and Public Research Partners to research, identify gaps, and co-design new tools to address gaps.

Approach: A systematic search of web-based resources on patient and public engagement and research training materials was conducted. Patient and Public Research Partners reviewed the materials and identified several gaps in foundational content to recruit and orient them to potential research team roles, and the research process. Patient and Public Research Partners were engaged in co-designing materials to support training of this population in health and social care research. To ensure these materials met their needs, iterative refinement of recruitment and orientation materials was completed by the Patient and Public Research Partners together with the research team.

Results: The result of this co-design process was the creation of 6 electronic and hard-copy pamphlets, now publicly available on the Aging, Community and Health Research Unit's website. Pamphlets address the following topics: a) how older adults can partner with researchers, b) what constitutes health and social care research, and c) how older adult research partners can inform the development of a research plan, data collection, data analysis, and how research findings are shared. Pamphlets describe the meaningful and collaborative roles Patient and Public Research Partners can take in contributing to each stage of the research process. Additionally, a repository of relevant web-based resources, organized by research phase, was created to support the development of an online toolkit for broad dissemination.

Conclusion: Patient and Public Research Partners need appropriate orientation and training to enable meaningful engagement with the research team. Future directions include an evaluation of available resources and utilizing and tailoring the pamphlets to support recruitment and engagement of new older adults into specific health and social care research studies.

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ID: 165

Author: Shanna DiMillo

Title: Meeting the needs of the population: how physician care varies in urban vs. rural settings?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In Canada, approximately 17% of the population reside in small communities outside of medium/large metropolitan areas (2016). However, a small fraction of physicians (8%) practice in rural areas including 14% of family physicians and 2% of specialists (2016). The misalignment between population and physician workforce distribution underscore the need to study how health care needs are met in rural and remote areas. This study describes how physician services vary across geographic settings.

Approach: The Canadian Institute for Health Information's National Physician Database was used to analyze all fee-for-service care delivered in eight provinces (2002/03-2015/16). Analysis centred on volumes and types of care delivered to small and large communities. Geographical areas were defined using statistical area classifications, including census metropolitan areas (CMA, with population $\geq 100k$), tracted (population = 50-99k) and untracted (population = 10-49k) census agglomerations (CA) and metropolitan-influences zones (MIZ, with population $< 10k$). Analysis was stratified by physician characteristics (e.g., practice location, specialty, age, sex), patient characteristics (e.g., age, sex), and service type (i.e., broad and detailed National Grouping System categories).

Results: In 2015/16, approximately 80% of physician services were delivered in CMA, as compared to 12% in CA and 5% in MIZ. The number of physicians providing services in MIZ has increased marginally (2% growth since 2002/03) compared to 48% physician workforce growth in CMA. Smaller communities have a breadth of specialists, but family physicians were the largest group, accounting for 86% of physician services in MIZ. Certain disciplines practised intensively in large urban centres. For example, oncologists conducted 98% of their services in CMAs. Some procedures were performed by different providers depending on the geographic location. For instance, in CMAs, colonoscopies were typically provided by gastroenterologists (45% of procedures) or general surgeons (41%). In MIZ, general surgeons conducted the majority of colonoscopies (71%).

Conclusion: The physician's detailed scope of practice across communities provides vital insight into how health care is provided to diverse populations. Understanding the type of care physicians provide in different settings can help inform physician recruitment and efforts to align training and continuing professional development with practice realities in rural settings.

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Author: Olivier Drouin

Title: Does a faster service attract more patients? - Impact of wait time on likelihood of return emergency room visit.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Longer wait time in pediatric emergency department (ED) is linked to poorer health outcomes. Yet, successfully lowering wait times may incite more patients to come back, and increase patient volume. We aimed to determine if wait time to see a physician in a pediatric ED in a first visit influences the likelihood that a family will return to the same setting.

Approach: We performed a retrospective cohort study of children who had a first visit to a single pediatric ED between 01/11/2016, and 31/10/2017, defined as a visit occurring without another ED visit in the previous 12 months. The primary outcome was the occurrence of a return visit in the following 12 months. Our main predictor was the wait time between the patient arrival in the ED and the first evaluation by a physician. We used logistic regression to evaluate the effect of wait time on the likelihood of return visit, adjusted for covariates (age, triage level, day of visit and disposition).

Results: Among the 85 844 ED visits during the study period, 36 844 were first visits and fulfilled inclusion/exclusion criteria. Half of the participants were aged less than five and the most common chief complaints were fever, respiratory problems and trauma. The median value for wait time was 101 minutes (Interquartile range: 56-177 min). Among those with a first visit, 11,351 (30.8%) had a repeat visit in the following 12 months. After adjusting for other risk factors, each one hour increase in wait time was associated with a lower probability of return (OR: 0.92; 95%CI:0.91-0.94). While younger children were more likely to return, there was no significant effect of triage level on the likelihood of having a return visit.

Conclusion: Families with shorter wait times in a first visit were more likely to consult the same pediatric ED in the following 12 months. Strategies to reduce wait times should take into consideration the possible unexpected consequences of a concomitant increase in patient volume, which may limit their efficacy.

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Author: Alexey Dudevich

Title: Hospital care: what are the differences for older adults with dementia?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The number of older adults living with dementia in Canada is increasing because of aging population and population growth. Hospital care for the population 65 and over has to adjust to their specific needs. The objective of this study was to identify and describe differences in utilization of hospital care in older adults with and without dementia. The study covers emergency department (ED) use, hospitalization rates, reasons for admission, length of hospital stay, etc.

Approach: We used hospital administrative data housed at the Canadian Institute for Health Information to conduct the study. Patients 65 years of age and over who visited the ED or were admitted to an acute care bed were identified as having dementia if respective ICD-10-CA codes appeared on their hospital record at least once over a four-year period. Analysis of ED visits is limited to Ontario and Alberta while inpatient care analysis includes all Canadian provinces and territories. Jurisdiction-specific prevalence of dementia was obtained from the Canadian Chronic Disease Surveillance system maintained by the Public Health Agency of Canada.

Results: Key features observed in patterns of hospital use by older adults with dementia:

- Older adults with dementia spend 2.5 hours longer in the ED than those without;
- They are twice as likely to be admitted following an ED visit;
- Hospitalization rates are 65% higher for older adults with dementia than those without, with jurisdictional variation in hospitalization rates ranging from 29 per 100 in Ontario to 41 per 100 in New Brunswick and Quebec;
- Older adults with dementia stay in hospital longer – this difference is greatest in younger age groups;
- Longer stays are associated with Alternate Level of Care (ALC) stays – one out of 5 admissions with dementia includes ALC;
- Older adults with dementia are responsible for about half of all ALC days accumulated by seniors.

Conclusion: This study quantifies the differences in hospital use between older adults with and without dementia. Results of the study may be used by health systems to better plan, coordinate, and organize care for older adults with dementia when they reach the inevitable stage of needing more intense healthcare resources.

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Author: Cathy Eastwood

Title: Heart Failure Case Identification Using Electronic Health Records: A Literature Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Accurate and timely identification of heart failure (HF) cases among hospitalized patients is essential for improving patient outcomes, health services delivery, and for research. The use of structured and unstructured components of electronic health records (EHR) for case derivation may improve case detection when compared to administrative data. We sought to identify studies using electronic health records for heart failure case derivation.

Approach: Embase, Medline, PubMed, and Google scholar databases were utilized. Search terms were developed around three spheres: 1) EHR related terms, 2) Case finding related terms, and 3) Heart failure (HF) related terms. ICD-10 descriptions were used to develop search terms related to HF. Inclusion criteria included studies focusing on human subjects, 2) involves the use of EHR system for case finding, and 3) published between year 2000 to Present. Studies involving only administrative data for case derivation were excluded, with the exception of studies that linked EHR data to administrative data.

Results: Total of 18 studies were identified: 11 studies published from inpatient settings and 7 published from primary care settings; 17 published in the United States. All studies included either structured components (e.g. demographics, problem list, laboratory data, medication) and/or unstructured components (e.g. discharge notes, progress notes) for case derivation. Studies varied in their analysis techniques; 5 utilized machine learning, 6 utilized statistical techniques, and 3 employed natural language processing. Three studies assessed algorithms against the established Framingham Risk Score and 1 study against Seattle Heart Failure Model. Studies concluded that EHR derived definitions and models achieved relatively high receiver operating curves values (range 0.75 to 0.90) for sensitivity and performed better, with about 10% improvement in area under the curve. Further results are forthcoming.

Conclusion: Heart failure case algorithms varied to some degree between studies, but demonstrated that EHR is a powerful source for case definition development. Literature review demonstrates that having an accurate case algorithm development is an essential first step before attempting risk adjustment analysis.

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ID: 524

Author: Jordan Edwards

Title: Concordance between diagnosed and self-reported mood and anxiety disorders among migrant populations and ethnic minority groups in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The proposed project will examine the concordance between self-report measures and clinical diagnoses of mood and anxiety disorders in migrant and ethnic minority groups in Ontario, using the linked health administrative data. This linkage will allow us to assess (1) whether estimates of self-reported mood and anxiety disorders are concordant with clinical diagnoses of these disorders; and (2) the socio-demographic characteristics that are associated with concordance between the measures.

Approach: Data on self-reported mood and anxiety disorders will be obtained from the Canadian Community Health Survey, which collects information on health status, health care utilization, and health determinants. This survey has been linked to health administrative databases in Ontario, which we will obtain to assess diagnosed mood and anxiety disorders using a standardized algorithm. We will use standardized differences to compare the distribution of baseline covariates between our concordance groups and will use modified Poisson regression analyses to assess if migrant status, compared to non-migrant status, results in an increase or a decrease in the risk of discordance.

Results: Data analysis and results will be completed prior to CAHSPR.

Conclusion: Estimates from administrative data are essential for informing health service planning. Where contact is made, and how often it's made are important pieces used to inform and improve mental health services among migrant groups in Canada. Understanding the limitations of these databases is a crucial first in this discussion.

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Author: Reem El Sherif

Title: How do people use online parenting health information with others, and what are the outcomes?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: High quality online consumer health information (OCHI) can reduce unnecessary visits to health professionals and improve health. One of the ways people use OCHI is to support others with health conditions. Members of an individual's entourage may help them overcome information-seeking barriers and illness challenges. Little is known on how people use OCHI with others, and what are the outcomes. Objective: Uncovering outcomes for people who search for OCHI for members of their social circle.

Approach: A mixed studies literature review followed by a convergent mixed methods study in the context of an online parenting information website (NaitreetGrandir). N&G implemented the validated Information Assessment Method (IAM4 parents) questionnaire in December 2016 and has received over 28,000 completed questionnaires. Participants visited N&G between 2017 and 2018 and completed an IAM questionnaire. Responses on OCHI outcomes will be analyzed, comparing between parents and non-parents (entourage). Interviews with 30 entourage members and thematic analysis on perceived OCHI outcomes. Quantitative and qualitative components will be conducted and analysed separately; results compared using a joint display to provide a complete picture.

Results: This is an important topic for researchers, primary health care practitioners, and patients. Different aspects of social support have been examined in relation to OCHI but there are no theories to explain this role. Results of the literature review, exploring the role of social support in OCHI seeking and outcomes, will be presented. A theoretical model on the role of social support in OCHI outcomes, developed following the review, will be presented for feedback. Preliminary results of the mixed methods study will be presented. These results will provide a better understanding of how people share OCHI on child well-being and development with others in their social circle, and what outcomes they experience. The validated IAM4parents questionnaire will also be adapted for entourage members.

Conclusion: By better understanding how people use information together, information providers can adapt information to meet both individual and group needs, and health care practitioners can target patients' entourage with information for dissemination and use. Results will be used in the next phase: a qualitative interpretive study with Quebec OCHI users.

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ID: 159

Author: Beverley Essue

Title: What is the out-of-pocket cost burden of cancer care? A literature review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Growing costs of cancer treatment pose a substantial economic burden on health care systems and patients and their families. In Canada, studies have estimated the magnitude of the direct costs paid by the government, which has supported concerns about the sustainability of the current expenditure. There has been less focused research on the burden of cancer care on patients and their families and on how this burden differs by cancer site and patient subpopulations.

Approach: . The objective of this study was to review the literature on out-of-pocket costs associated with cancer in Canada, compare with estimates from other OECD countries, and better understand the methods used to measure the economic burden of cancer. We conducted a comprehensive literature review of studies published in the academic and grey literature from 2008 to 2018, searching the main electronic databases. This was supplemented with key-informant interviews. Results were analyzed using a narrative synthesis. Quality appraisals were conducted on retrieved studies.

Results: Seventy-eight studies were included, 18 (23%) from Canada, and ten key-informant interviews were conducted. Breast cancer was most commonly studied. The average monthly out-of-pocket expenditure reported in Canadian studies was CDN\$380, with prescription medicines and transport representing the highest cost categories followed by aides and equipment. Most studies used patient surveys. Few studies measured costs using longitudinal data or measured out-of-pocket costs in proportion to income; yet these were identified by key informants as crucial for understanding the affordability and impact of out-of-pocket costs. Fewer studies investigated how patients coped with financial hardship or the long-term impact on household-level economics.

Conclusion: Cancer patients face high out-of-pocket costs. Our results support the need for PharmaCare and, potentially, a re-definition of the classification of essential care and what is universally covered under the Canada Health Act. Existing data sources should be leveraged to understand how to mitigate the financial burden of cancer

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ID: 161

Author: Beverley Essue

Title: How should we measure the psychosocial costs of cancer? A literature review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Psychosocial costs are the intangible costs of the psychological and emotional burden associated with illnesses, such as cancer. Psychosocial costs can include additional treatment costs and costs associated with the impact of this burden on patients, including from compromised quality of life. Few studies have quantified the psychosocial costs associated with cancer so decision-makers lack complete information on the true burden of cancer on patients and families.

Approach: This study aimed to describe and critically analyze approaches used for measuring the psychosocial costs of cancer. We conducted a comprehensive literature review of primary studies and reviews published in the academic and grey literature from 2008 to 2018 by searching ten electronic databases. This was supplemented with key-informant interviews. Results were analyzed using a narrative synthesis. Quality appraisals were conducted on included studies.

Results: Forty-four primary studies and 13 reviews were included. Most of the reviews (85%) were published within the last five years and included studies of various cancer sites (69%). Various dimensions of the psychosocial burden were described, including: health-related quality of life; clinical diagnoses (e.g. anxiety or depression), or cancer-specific aspects of social, emotional, financial, and relational wellbeing and functioning. Few studies estimated the associated costs. Informants identified a) heterogeneity in the experience and impact of cancer (e.g. between population subgroups, age at diagnosis, prognosis) and; b) the lack of standardized tools as the key challenges for measuring and costing the psychosocial burden of cancer.

Conclusion: Methodological work is needed to better estimate the costs associated with the psychosocial burden of cancer. Further consultation with experts, patients and their families, will help to estimate and validate these costs. The development and validation of a tool to measure this burden would ensure consistency in measurement across studies.

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ID: 169

Author: Beverley Essue

Title: How does adherence to guideline recommended diabetes management impact health service use of older people with type 2 diabetes in Ontario, Canada?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Diabetes is common and costly, affects many older Canadians and imposes a substantial economic burden on the healthcare system, patients and families. Effective management of diabetes, proscribed in the Diabetes Canada Clinical Practice Guidelines, is critical for controlling diabetes progression and minimizing adverse outcomes. However, research suggests that patients' adherence to the recommended self-management guidelines is sub-optimal. This study aimed to investigate the relationship between guideline adherence and health system outcomes among elderly patients.

Approach: This was a retrospective cohort study. We identified older (71 years and over) prevalent diabetes cases in 2014, using the Ontario Diabetes Database. They were linked to eight years of health service use data. Three patterns of diabetes guideline adherence were examined from 2008 to 2014: a) total number of adherent years, b) number of consecutive adherent years, and c) largest gap in adherence. A logistic regression model, developed using backward elimination, was used to examine the relationships between each pattern of adherence and diabetes-related ED or acute care hospital admissions from 2014 to 2016.

Results: The linked cohort included 128,669 prevalent cases with diabetes. 73.8% were diagnosed between 2003-2006 and 54.4% had comorbidities. The mean number of adherent years was 4.08 years (SD:2.4), the mean number of consecutive adherent years 3.6 years (SD:1.9) and mean gap in adherence was 1.9 years (SD:1.75). Adherence to cardioprotective pharmacotherapies (65.7%) and requirements for creatine testing (52.5%) and HbA1 testing (49.8%) had the highest rates of adherence over the six-year period. When the final models accounted for relevant co-variables there was a greater likelihood of having a diabetes-related ED or acute care admission with each additional year of adherence (OR:1.13,95%CI:1.11-1.16)), with each additional consecutive year of adherence (OR:1.11,95%CI:1.09-1.13) and as the gap in adherence decreased by one year (OR:0.96,95%CI:0.94-0.99).

Conclusion: This study confirmed sub-optimal levels of adherence to guideline care in an older population in Ontario and found the consistency of adherence to the guidelines investigated in this study did not reduce the likelihood of adverse outcomes.

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Author: Ghazal Fazli

Title: Conversion from normoglycemia to prediabetes among immigrants of different ethnicities in Ontario: A population-based study

Type of Abstract: Oral Presentation: Standard

Background and objectives: Identifying individuals with prediabetes provides an opportunity to intervene early and delay or prevent the onset of type 2 diabetes. We aimed to examine the extent to which the risk of converting from normoglycemia to prediabetes will vary among immigrants of different ethnic groups.

Methods: A retrospective cohort study was conducted to compare the incidence of prediabetes among immigrants of different ethnicity and long-term residents. Adults aged ≥ 20 with normoglycemia were identified using a single commercial laboratory from 2002- 2011 in Ontario and followed until 2013 for the development of prediabetes. Prediabetes was defined according to the World Health Organization, as impaired fasting glucose (IFG: 6.1-6.9 mmol/L) or impaired glucose tolerance (IGT: 7.8-11.0 mmol/L) or HbA1c of 6.0-6.4%. Based on a validated algorithm, immigrants were categorized into distinct ethnic groups using country of birth, mother tongue and surnames. Fine and Gray's competing risk survival modeling methods were used to compute incidence rates.

Results: Overall, the cumulative incidence of prediabetes was 21.2% among immigrants (N=334,678; mean age 40) and 16.0% among long-term residents (N=1,437,502; mean age 46). Overall, the risk of developing prediabetes was significantly elevated among South Asians (HR:1.95, 95% CI:1.87-2.03, $p < 0.001$) and Sub-Saharan African and Caribbeans (HR:1.61, 95% CI:1.54-1.68, $p < 0.001$) compared to Western Europeans. Over a median follow up of 8.0 years, the cumulative incidence of prediabetes was 19.8%, 20.4%, and 23.6% for South-east Asians, Sub-Saharan African and Caribbeans, and South Asians, respectively compared to 13.8% for Western Europeans. The elevated risk of developing prediabetes persisted for all other non-European ethnic groups. Furthermore, the incidence of prediabetes among younger adults of South Asian descent aged 20-34 (14.3%) was equivalent to Western Europeans aged 35-49 (15.6%). Prediabetes incidence rates continued to rise for all groups aged 35-49, but increased sharply by age 50-64.

Conclusion: High risk ethnic groups have a high risk of developing prediabetes. These findings call for health care strategies to adopt early detection interventions for prediabetes in high risk populations and implement preventive lifestyle measures.

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Author: Kathryn A. Fisher

Title: Exploring the Relationship between Multimorbidity and Acute Care Service Use Adjusted for a Comprehensive Range of Socio-demographic Factors

Type of Abstract: Oral Presentation: Standard

Background and Objectives: A number of studies have shown that an increasing level of multimorbidity is associated with a consistent increase in healthcare service use, including our previous work on three older adult (65+ years) disease cohorts (diabetes, dementia, stroke). This study builds on our prior research by examining the association between the level of multimorbidity and healthcare service use in the general older adult population and determining how selected socio-demographic factors impact the association.

Approach: This retrospective cohort study used administrative data for 28,381 Ontario older adults linked to data from four cycles of the Canadian Community Health Survey (CCHS). Multimorbidity, measured by condition count, was estimated from administrative data on 12 chronic conditions. Socio-demographic variables (SDVs) from CCHS included sex, age, immigrant status, education, income, rurality, living status, functional limitations, and perceived physical and mental health. Acute care service use was obtained from administrative databases. Stratified analyses explored SDVs as potential modifiers and/or confounders and regression models examined unadjusted (multimorbidity only) and adjusted odds of emergency department (ED) and hospital use (any use, count).

Results: The odds of ED and hospital use increased with increasing multimorbidity. The odds of any ED use were higher for those that had more multimorbidity (OR=1.75, $p < 0.0001$, 4+ vs 0-1 conditions), low income (OR=1.29, $p = 0.0071$, $< \$30k$ vs $\geq \$30K$), low perceived physical health (OR=1.91, $p < 0.0001$, fair/poor vs very good/excellent), were older (OR=1.43, $p < 0.0001$, 75-84 vs 65-74), male (OR=1.16, $p = 0.004$), non-immigrant (OR=1.35, $p < 0.0001$), less educated (OR=1.12, $p = 0.04$, no diploma vs secondary or higher), or rural (OR=1.26, $p < 0.0001$). ED use measured as a count showed similar results, as did the findings for any hospitalization except living status was now predictive of use (OR=1.15, $p = 0.0009$, living alone vs with someone) and education and rurality were not. Adding SDVs to regression models attenuated the multimorbidity/service use relationship.

Conclusion: Acute care service use is shaped by level of multimorbidity and various socio-demographic factors. These results suggest that interventions aimed at reducing use of expensive healthcare services should target health status as well as a wide range of social determinants of health.

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Title: Impact of Alzheimer Society Service Use on Caregiver Strain and Depression for Caregivers of Individuals with Dementia

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Increases in prevalence and healthcare costs of dementia are motivating governments to shift care of these individuals to families and communities. Numerous studies have examined healthcare utilization within the context of dementia; however, most focus on health/medical services, and few consider caregivers' service use or the impact of their use on caregivers' health. This study examined impact of caregivers' use of Alzheimer Society (AS) services on caregiver strain and depression over a 2-year period.

Approach: Study participants were 121 caregivers referred to the AS. Data were collected at baseline and every 6 months for 2 years on caregiver strain, depression, and AS service use (i.e., educational, support, counselling, total services). Baseline socio-demographic data included caregivers' age, sex, education, income, living status, and chronic conditions. Strain was measured using the Modified Caregiver Strain Index and depression using the Geriatric Depression Scale. Generalized estimating equations (GEE) were used to examine the association between AS service use and outcomes. Multiple imputation was used to address missing data, and unadjusted (AS service use only) and adjusted models were run.

Results: Caregivers were mostly female (70%), an average of 62.5 years old, and were living with an average of 1.4 chronic conditions. About one-half (52%) were caring for a parent and 36% for a spouse. Strain was highest at baseline and consistently declined over 2 years (baseline & 2 years: 11.14-7.46), as did depression (baseline & 2 years: 2.93-2.16). AS service use was highest at baseline. Results showed that, over time, decreased caregiver strain and depression were associated with increased use of AS support services (strain: $\beta=-0.19$, $p=.003$; depression: $\beta=-0.07$, $p=0.004$) and total services (strain: $\beta=-0.14$, $p=0.005$; depression: $\beta=-0.05$, $p=0.01$). Inclusion of socio-demographic variables in the GEE models resulted in only a slight attenuation of the effect of AS service use on the outcomes.

Conclusion: Caregivers' increased use of AS support and total services over a 2 year period was associated with a decrease in caregiver strain and depression. These results suggest that AS services may be instrumental in alleviating the high and ever-increasing healthcare and social system costs for caregivers of persons with dementia.

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Author: Jane Fletcher

Title: Pharmacist and Patient Perspectives on Recruitment Strategies for Randomized Controlled Trials: A Qualitative Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Although recruitment is a major challenge for most randomized controlled trials, few trials report on the effectiveness of their recruitment procedures, or how they might be enhanced. The objective of our study was to better understand the challenges and successes of recruitment strategies in the context of a large RCT.

Approach: The ACCESS trial is an RCT of patient education and copayment elimination for preventive medications among low-income seniors with chronic disease. We focused on the two most successful recruitment strategies: patient-facing materials and the use of community pharmacists. Using qualitative descriptive methods, we collected data from purposively sampled pharmacists (20 individual interviews) and participants (n=12 in 2 focus groups). Pharmacists were asked about their impressions of the study, the challenges they faced, and the methods they employed to recruit. Focus groups centered on the patient-facing recruitment materials. Interviews and focus groups were recorded, transcribed and analyzed using thematic analysis.

Results: Pharmacists were introduced to the study in multiple ways: patients, ACCESS staff, colleagues and the media. Their first impressions of the study were positive as they described being enticed by the potential benefit of copayment elimination to their patients. Given time constraints in community pharmacies, pharmacists cited the ease and low commitment as factors in their willingness to recruit. Pharmacists were also more likely to recruit if they were well informed on all aspects of the study. Participants noted that their primary motivations for participating in the study were mainly the tangible benefits of free preventive medications and the intrinsic value of participating in research. They were more likely to agree to be enrolled if they had encouragement from healthcare providers, family and ACCESS staff.

Conclusion: Recruitment through pharmacies is an effective method since patients have trusting relationships with their pharmacist. Pharmacists need to have a good knowledge of the study and facile procedures. Messaging to potential participants should focus on the tangible benefits of participation.

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Title: What are the strategies used by health researchers to communicate their findings to the public in the digital and social media ecosystem? Results from a scoping review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Communicating findings of health research to the public is crucial to inform policy-making and support individuals' self-care. Health researchers play a growing role in science communication (SC). This is especially true now that the public has direct access to information from researchers through the digital and social media ecosystem. This scoping review aimed to describe the SC strategies and communication channels used by health researchers with the public in the digital and social media ecosystem.

Approach: This scoping review followed the Joanna Briggs Institute methodological framework. In April 2018, six bibliographical databases were searched for literature published since 2000 that met inclusion criteria. Publications were included if they described a process or an activity of SC targeting the public initiated by health researchers in the digital and social media ecosystem. Grey literature sources, trial registries, and journals were also hand-searched. Reviewers worked independently and in duplicate to screen titles and abstracts, perform full-text assessment, and extract data. A constant comparative method was used to identify the types of SC strategies reported in included publications.

Results: From a pool of 960 publications, 18 met inclusion criteria. Overall, 75 SC strategies used by health researchers in the digital and social media ecosystem were identified. These SC strategies were regrouped under 9 types: content, credibility, engagement, intention, linguistics, planification, presentation, social exchange, and statistics. Only 13 SC strategies (17.33%) were cited more than once, and the most frequent were: "Announcing new studies, research articles and findings" (content), "Use hashtags" (engagement), "Consider the usefulness of the research findings for the target audience" (intention), "Minimize the use of, or replace, scientific jargon" (linguistics), and "Encourage discussion, participation and engagement on digital and social media" (social exchange). The most frequently cited communication channels were Twitter, blogs, Facebook, personal websites, and YouTube.

Conclusion: Findings suggest health researchers employ several types of SC strategies ranging from planification to social exchange in order to communicate their findings to the public in the digital and social media ecosystem. Future research should focus on evaluating the effect of SC strategies on the public's understanding of science.

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Title: The Intergenerational Activities for Growth and Engagement (interAGE) project: Findings from an intergenerational co-housing experiential learning opportunity for university students and residents in a long-term care and assisted living facility

Type of Abstract: Oral Presentation: Standard

Background and Objectives: To increase opportunities for social engagement and promote positive attitudes towards aging the Intergenerational Activities for Growth and Engagement project (interAGE) was developed as an experiential learning, cohousing opportunity for University students and residents in a long-term care and assisted living facility (LTC/AL).

Approach: The project goals were to 1) improve mental health and wellbeing of residents through social activities and interactions with students, and 2) provide students an opportunity to connect with older adults in a day-to-day living environment. Students enrolled in a fourth year elective course taught at the LTC/AL residence. Weekly classes were attended by: students, faculty, as well as LTC/AL residents, their family members, LTC/AL staff, and interested guests from the community. Students engaged in 10-15 hours per week of structured and unstructured activities with residents. In fall 2018 and winter 2019 semesters the first two cohorts moved in.

Results: This project was co-created by researchers and stakeholders from the Northern Health Authority. We will provide insight into our co-creation process along with preliminary qualitative and quantitative research findings from the perspectives of residents (focus groups and pre-post surveys), LTC/AL staff (focus groups) and students (interviews and digital stories co-created by residents and students). We will also describe the intergenerational activities led by the students.

The design process took nearly two years from water cooler conversations and community consultation to decisions and actions. Students, residents, and staff participated in town hall discussions. We integrated these findings into project design. Consultation focused on assessing enthusiasm for the project, motivation to participate, preferred activities and time commitments between students and residents.

Conclusion: Together, a strong team of researchers and health care decision makers was successful in co-designing and implementing this co-housing opportunity aimed at meeting the needs of all involved within an experiential learning and research-inclusive environment.

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Author: Jamie Fujioka

Title: The urgent need for timely, accessible and high-quality palliative health services: can technology fill the gap?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite an increasing aging population and chronic disease prevalence, few Canadians have early access to palliative care – an important determinant of well-being and quality of life among those with life-limiting diagnoses. Integrating digital health solutions within palliative care may be an effective strategy to address inadequate access and transform current services to keep pace with demand. This qualitative study explored the utilization of technological innovations within palliative care from multiple stakeholder perspectives.

Approach: Our investigation was embedded within the context of two virtual palliative demonstration projects in two Ontario regions that tested videoconferencing, remote monitoring and electronic medical management for patients receiving in-home palliative care. Twenty qualitative, semi-structured interviews were conducted with administrative stakeholders, policymakers, clinicians, and patients involved in the demonstration projects or palliative care broadly. Participants were identified using a purposive and snowball sampling technique whereby project leads provided appropriate contacts. Interview questions were open-ended and exploratory to gain insight into participants' experiences with and perspectives of technology in palliative care. An inductive content analysis was undertaken to identify major themes.

Results: Our interviews identified potential technologies that could alleviate gaps in palliative care. To improve access to palliative services, two technology features were identified as high-value: videoconferencing and remote-monitoring to decentralize health services out of high-resource institutions and into home and community settings. While participants reported that digital health solutions can provide support in a variety of areas, they also felt that one technological solution will not address all gaps. Further, technology was seen as an enabler to connect multiple actors involved in a patient's circle of care, who often operate in silos. Critical factors for the implementation, scale, and spread of technologies within palliative care were also identified. Participants reported that successful implementation is contingent on ongoing collaboration across multiple stakeholder groups.

Conclusion: As the demand for palliative care escalates, technological innovations have the potential to address challenges with scarce resources and support timely, accessible and coordinated palliative care. Given operationalization of palliative care is often resource-constrained and fragmented, widespread engagement, resource allocation and collaboration across multiple stakeholders is required to transform care.

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Titre: Accessibilité aux services de réadaptation pédiatrique au Canada : résultats d'une enquête organisationnelle

Type d'abstrait: Oral Presentation: Standard

Objectifs: Les services de réadaptation physique sont essentiels aux enfants ayant des déficiences. L'accessibilité à ces services de réadaptation serait compromise dans le système de santé canadien, quoi qu'elle n'ait pas fait l'objet d'un portrait national.

Ce projet visait à décrire les listes d'attente dans les centres de réadaptation pédiatriques canadiens et à faire état des stratégies employées pour la gestion de ces listes.

Approche: Nous avons mené une enquête descriptive transversale dans les centres de réadaptation (CR) du Canada qui offrent des programmes et services de physiothérapie ou d'ergothérapie à une clientèle pédiatrique (0-21 ans) ayant des déficiences physiques ou neuromotrices au Canada. Les données ont été obtenues via un questionnaire électronique suivi d'un entretien téléphonique structuré auprès des gestionnaires des listes d'attente dans ces CR. Les données ont fait l'objet d'analyses statistiques descriptives.

Résultats: Des données ont été recueillies auprès de 70 (participation 41,9 %) des 167 programmes et services ciblés. En moyenne, le temps d'attente médian était de $4,6 \pm 3,1$ mois en physiothérapie, de $4,5 \pm 2,3$ mois en ergothérapie, et de $4,8 \pm 4,6$ mois pour les programmes. Douze services ne présentaient pas de temps d'attente. 52,4% des milieux utilisaient un outil formel pour prioriser les références, 65,1% employaient des niveaux de priorité et 66,7% présentaient une balise de temps d'attente maximal. L'organisation des services et la gestion des listes d'attente étaient complexes et hautement hétérogènes entre les provinces et dans certains cas entre régions d'une même province, compliquant ainsi l'obtention, la synthèse et l'interprétation des résultats à l'échelle nationale.

Conclusion: Les résultats obtenus dressent un portrait récent de l'accessibilité aux CR pédiatriques canadiens et exposent certaines lacunes. Cette analyse suggère la nécessité d'instaurer diverses mesures, notamment en matière de pratiques cliniques, organisationnelles et de politiques de réadaptation pédiatrique, pour améliorer l'accessibilité aux services pour la clientèle visée.

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ID: 32

Author: Jacqueline Gahagan

Title: Meaningful inclusion of LGBTQ perspectives on primary health policy

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Background and Objectives: Lesbian, gay, bisexual, transgender and queer (LGBTQ) populations experience poorer health outcomes as compared with their age matched heterosexual, cisgender peers. The extent of the burden of poor health outcomes is not well understood in the context of Nova Scotia as the province does not systematically collect data on the health needs and outcomes of LGBTQ populations. The objective of this study was to collect data on these historically marginalized populations.

Approach: Approach: Following a series of community consultations, an online survey was developed to examine the key primary health care and policy relevant issues facing both LGBTQ populations and health care providers in Nova Scotia, Canada.

Results: Results: A total of 283 surveys were completed by LGBTQ respondents and an additional 109 were completed by health care providers. A number of key primary health issues which were highly rated as key primary health priorities among LGBTQ respondents were seen as less salient from the perspective of health care provider respondents.

Conclusion: Conclusion: Both intersectionality and health equity remain key theoretical frameworks needed to help situate and contextualize the needs and experiences of LGBTQ populations in relation to primary health. Addressing the primary health issues facing these populations will require active inclusion of both LGBTQ populations and health care providers.

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Title: End-of-life conversations and older LGBT populations

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Although many older populations can experience significant challenges with end-of-life preparations, older LGBT Canadians face the additional issues such stigma and discrimination, invisibility and marginality, and 'going back into the closet' when in need for formal health care as they age. This national, qualitative study sought to advance our understanding of the varied needs of older LGBT adults and determine how best to meet these needs.

Approach: Our national team undertook a series of focus groups with older LGBT adults in five Canadian cities (Vancouver, Edmonton, Toronto, Montreal and Halifax) to explore and understand their end-of-life decision making, the types of formal and informal information used to inform decision making, and the place of technology in facilitating access to information resources. Inclusion criteria for participants was 60 years of age or older, English or French speaking, having one or more chronic health conditions, and some internet experience. The data collected were used to develop an online intervention to address the unmet information needs of these populations.

Results: Overall, most participants spoke of a variety of challenges in finding safe, LGBT-friendly and accessible information on end-of-life processes, particularly in smaller cities with fewer formalized LGBT resources. Although the internet was regarded by many participants as a potentially important information access or entry point, there was fear of potential breaches of confidentiality when using certain types of social media sites. In addition, having one centralized, national and trusted source of end-of-life information relevant to older LGBT adults was seen as critically needed.

Conclusion: Canadian health policy makers and analysts are key individuals needed as part of the end-of-life preparations for older LGBT populations. Additional consideration of the ways in which older LGBTQ populations, who are oftentimes absent from the policy decision-making process, can be meaningfully connected to the ways in which health

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Title: Housing as a key determinant of health for older LGBT adults

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As the number of baby boomers to reach age 65 in Canada and other countries grows, our challenge is to determine how well existing policies and models can respond to the increase in the population of older adults. Recent Canadian data show that the growth rate of the population aged 65 years and older is approximately 3.5% (which is about four times the growth rate of the total Canadian population).

Approach: Our team - made up of an interdisciplinary group of researchers, graduate students, SGBA and policy analysts, community members, government partners, and those with lived experience – address the knowledge gaps in relation to older LGBT populations and access to safe, affordable and accessible housing in Canada. Our team has studied these issues in other countries and have found a variety of promising and innovative policies and programs that have been highly successful in meeting the housing needs of older LGBT populations.

Results: Realignment of current housing policies and related health care systems are an integral part of ensuring the needs of older LGBT Canadians are being met. From a health equity and Sex- and Gender-Based Analytic (SGBA) perspective, our international team has found that the variability and focus of policies aimed at older LGBT populations can be found in select EU states. However, our data point to a number of international, promising policy and programming practices that would be translatable in the Canadian context.

Conclusion: Greater attention to the 'pink tsunami' is needed in order to appropriately address the key housing needs of this growing segment of the ageing Canadian population. The recently released CMHC Housing Strategy provides a unique opportunity to respond to this health and social need.

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Title: A formalized shared decision making process with individualized decision aids improves comprehension and decisional quality among frail, elderly cardiac surgery patients.

Type of Abstract: Oral Presentation: Standard

BACKGROUND: Comprehension of risks, benefits, and alternative treatment options is poor among patients referred for cardiac surgery interventions. The objective of the current study is to explore the impact of a formalized shared decision making (SDM) on patient comprehension and decisional quality among elderly patients referred for cardiac surgery.

METHODS: A formalized SDM process was established including a paper-based decision aid and evaluated within the context of a pre-post study design. Surgeons were trained in SDM through a web based programme. Patients undergoing isolated valve, CABG or CABG+Valve surgery were eligible. Participants in the pre-intervention phase (n=100) underwent usual consent discussions. Participants in the interventional group (n=100) were presented with a decision aid following the decision to refer for surgery, populated with individualized risk assessment, personal profile, and co-morbidity status. Both groups were assessed following consent but prior to surgery. Primary outcomes were comprehension and decisional quality scores.

RESULTS: Patients in the interventional group scored higher in comprehension (median: 15.0; IQR: 12.0-18.0) compared to those who did not (median: 9.0; IQR: 7.0-12.0) ($p < 0.001$). Decisional quality was greater in the interventional group (median: 82.2; IQR: 73.0-91.0) compared to those in the pre-intervention group (median: 75.6; IQR: 62.0-82.0) ($p < 0.05$). Decisional conflict scores were lower in the post-intervention group (mean: 1.76, SD 1.14) compared to those in the pre-intervention group (mean: 5.26, SD: 1.02) ($p < 0.05$). Anxiety and depression scores showed no significant difference between pre-intervention (median: 9.0; IQR: 4.0-12.0) and post-intervention groups (median: 7.0; IQR: 5.0-11.0) ($p < 0.28$).

CONCLUSION: Institution of a formalized SDM process including individualized decision aids improve comprehension of risks, benefits and alternatives to cardiac surgery, decisional quality, and did not result in increased levels of anxiety.

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Author: Isabel Garces Davila

Title: Geographic variation in mental health service use among children and youth in Canadian Armed Forces (CAF) families across Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: CAF families relocate four times as often as non-military families. International data suggest that relocation may impact military children and youth' mental health. Previous research indicates variation in mental healthcare use in different regions in Ontario. With no complementary data in Canada, there is a need to understand mental healthcare use among children and youth posted to different locations. This study examined intra-provincial differences in mental healthcare use in CAF dependents relocated to Ontario.

Approach: This was a retrospective study using linked healthcare administrative datasets housed at the Institute for Clinical Evaluative Sciences (ICES) to examine intra-provincial variation in mental healthcare use in CAF children and youth following their relocation to five regions (South East, Champlain, North Simcoe, North East, Other) in Ontario, between 2008 and 2013. We examined mental health-related visits to family physicians, paediatricians, and psychiatrists, psychiatric hospitalizations. Comparisons of mental healthcare use and time to first mental healthcare visits across regions of Ontario were conducted using chi square tests (categorical data) and Kruskal-Wallis tests (skewed continuous data).

Results: This study included 5,478 CAF dependants. Half of children and youth were under the age of 7, half were boys, a higher number (N = 2,527) lived in the Champlain region than in other regions. The highest percentage of outpatient visits for mental health reasons was found for paediatricians in the Champlain region (22.3%, $p < 0.05$). In the same region, children and youth had a higher percentage of psychiatric visits (7.2%, $p < 0.05$) than in other regions (e.g., South East region 2.8%). With respect to the time to first outpatient visit after relocation, the median time to see a mental health physician ranged across the province from 9 months in North Simcoe to 17 months in North East region.

Conclusion: This is the first study to quantify intra-provincial differences in mental healthcare use among CAF children and youth relocated to Ontario. Findings indicate differences in mental healthcare use across regions in Ontario. This reinforces the need to understand resource availability in each location, identify gaps, and ensure supports are available.

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Title: Intra-provincial variation in mental health services use among Canadian Armed Forces (CAF) spouses posted across Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Each year, 12,500 CAF members relocate to a new posting; military families relocate four times as often as non-military families. International data suggest relocations put unique pressures on CAF spouses that affect their mental health and create challenges, including finding mental healthcare providers, navigating unfamiliar healthcare systems, intra-provincial variation in available services, and long wait times for psychiatric care. This study examined intra-provincial differences in mental healthcare use in CAF spouses relocated to Ontario.

Approach: This was a retrospective study using linked healthcare administrative datasets housed at the Institute for Clinical Evaluative Sciences (ICES) to examine intra-provincial variation in mental healthcare use in CAF spouses following their relocation to five regions (South East, Champlain, North Simcoe, North East, Other) in Ontario, between 2008 and 2013. We examined mental health-related visits to family physicians, psychiatrists, and emergency department, psychiatric hospitalizations, and time to first outpatient mental health visit. Comparisons of mental healthcare use and time to first mental healthcare visit across Ontario were conducted using chi square tests (categorical data) and Kruskal-Wallis tests (skewed continuous data).

Results: This study included 3,358 female spouses in CAF families. Across the five geographic regions, the proportion of spouses with at least one outpatient mental health visit did not vary significantly ($p>0.05$); however, a difference in use of 10% or greater was found between the North East region and the rest of Ontario. Similarly, the percentage of psychiatric hospitalizations didn't vary. The time to first psychiatrist visit did not vary significantly ($p>0.05$) across the province, although it ranged from 12 months in areas outside the four key regions to 15 months in the South East and North Simcoe regions.

Conclusion: This is the first study of mental health services use in CAF spouses. We did not identify intra-provincial variation in mental healthcare use following relocation. These findings suggest CAF spouses might be accessing services as needed. However, more research is needed to confirm these results in the military.

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ID: 305

Author: Lisa Garland Baird

Title: Engaging Family Caregivers and Health-System Partners to Identify how Primary Health Care Can Engage with Critical Community Supports to Provide Community-Based Palliative Care: A Realist Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Primary Health Care (PHC) plays a key role in the delivery of community-based palliative care including connecting patients and family to critical community supports and services early in their trajectory toward end-of-life. The objective of this realist review was to partner with family caregivers and health-system partners to synthesize the literature on how case management mechanisms facilitate connections to critical informal/formal community services and supports to improve the delivery of community-based palliative care.

Approach: A realist review guided by the RAMESES protocol was used. Iterative phases of the realist review process included identifying and screening the research literature, reflecting on realist review methodology, consultation processes and semi-structured interviews with family caregivers and health-system partners. Using a realist review approach allowed the research team to circumvent a positivist approach to literature synthesis through meaningful and sustained engagement of family and health-system partners. This engagement stimulated the research team to critically reflect on how health system issues are viewed by family caregivers and how they can be addressed at multiple levels.

Results: The team is extracting data from 50 of 2959 screened articles to explore program theories. Articles rarely identified critical community supports that help patients remain in the community, or how to involve patients/families in care planning. Two key directions surfaced during our study: the importance of health care provider training and communication in the delivery of palliative care, and the value of intersectoral information sharing and monitoring of family-centred plans to improve care coordination for patients and family caregivers across health care settings and throughout the palliative trajectory. The engagement of family caregivers and health-system partners played an essential role in identifying critical community supports and desired outcomes. It kept the team grounded in what patients and family caregivers value and what is feasible.

Conclusion: Findings support the implementation of case management mechanisms to better integrate community-based palliative care and to address the complex needs of patients facing end-of-life and their caregivers. Family caregivers play a foundational role in identifying critical supports that reflect their values and needs in end-of-life care.

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ID: 494

Author: Alexis Gilmer

Title: Are non-findings a finding in healthcare disparities research?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Literature in Canada and the US suggests that experiences and perceptions of treatment in healthcare settings differ by ethnicity and gender. This research will vary from previous literature by examining this issue across a large sample in a quantitative manner. The present study has two primary objectives. First, to assess how Ontarians perceive healthcare services and rate their personal health. Second, to determine gender- and ethnic-disparities in perceived quality of care and self-reported general health.

Approach: A sample of 422 participants residing across Ontario ($M_{age} = 71.64$) have been recruited thus far from a database of over 1200 individuals to complete a survey about growing up in Ontario. Descriptive statistics were conducted to better understand how Ontarians perceive their healthcare services and rate their general health. ANOVA analyses were performed to assess differences in perspective of quality of care and ratings of general health by ethnicity and gender.

Results: Overall, participants self-reported general health that is good to very good ($M = 3.6$, $SD = .97$). Preliminary findings indicate that men ($M = 2.33$, $SD = .94$) were more likely to avoid seeking a professional for their child than women ($M = 1.68$, $SD = .93$); however, this difference was not statistically significant. Additionally, although there were some slight differences in the perception of care across gender and ethnicity these differences were not statistically significant. For example, those who identified as Indigenous reported slightly higher perceptions of differential treatment ($n = 20$, $M = 1.22$, $SD = .43$) than those who identified as Asian ($n = 45$, $M = 1.1$, $SD = .28$), European ($n = 66$, $M = 1.09$, $SD = .29$), or African ($n = 13$, $M = 1.09$, $SD = .30$) but these differences were non-significant. As data collection is ongoing, analyses will be re-run prior to the conference, if accepted.

Conclusion: No differences by ethnicity and gender were found on the perception of healthcare treatment. This finding is inconsistent with the dominant literature. Future research should examine other explanations of disparities, such as self-reported health status, age, sexual orientation, non-binary gender.

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Author: Laurie Goldsmith

Title: Implementing a fully integrated mixed methods design with a cross-national, multidisciplinary team: the Early Career Primary Care (ECPC) Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Mixed methods scholars emphasize the importance of integration, with key methodologists suggesting studies without integration of qualitative and quantitative phases do not earn the mixed methods label. While mixed methods research designs are now common in Canadian health services research, few examples demonstrate qualitative and quantitative integration. This presentation describes our mixed methods study of early career primary care physicians' practice intentions, practice choices, and practice patterns and our attention to integration throughout the study.

Approach: We employ a fully integrated mixed methods design to understand early career primary care physicians' practice intentions, practice choices, and practice patterns within the physician workforce in BC, ON, and NS. Our study treats qualitative and quantitative methods with equal status, which is operationalized through two dominant arms (one qualitative, one quantitative) and a third arm (quantitative) playing a supporting role. The three arms are integrated in multiple ways during the study planning, data collection and analysis, and interpretation phases. Integration is further supported through some basic methods primers and regular communication and membership overlap across study sub-teams.

Results: We are one year into the implementation of our mixed methods study. We have spent significant time refining our data construction plans within and across the study arms. Early attention to integration at the study preparation phase resulted in the identification of new concepts to use across the study arms. Regular discussion of integration also allowed for expansion of integration plans. This complex study design has been further supported by our commitment to transdisciplinarity and collaboration effectiveness. Our multidisciplinary team includes persons with expertise in both qualitative and quantitative methods, and experience serving as methods translators on mixed methods projects; all these persons serve on at least two study sub-teams. We have established a strong initial foundation for communication within and across study arms.

Conclusion: Employing integration in mixed methods research requires sustained attention to mixing throughout the study and an openness to creating new concepts and approaches during the study. Attention to integration, transdisciplinarity, and collaboration effectiveness is especially key in cross-national, multidisciplinary teams where different team members have expertise in different components.

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Author: Yanyan Gong

Title: Frequent hospital users for mental health or addictions: perspectives on access to care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Many mental health and addiction issues can be managed in the community if mental health services and support programs are available and accessible. However, reports and patient stories indicate challenges with accessing these services, leading to frequent use of emergency departments and hospital inpatient services. The objective of this work is to show the magnitude of this burden on the Canadian hospital system, as a starting point to identifying areas for improving community-based care.

Approach: Individuals with multiple hospital stays and/or multiple visits to emergency department (ED) or urgent care centres (UCC) for mental health or addiction (MHA) issues were examined using administrative databases, at Canada and jurisdiction levels. Individuals who had at least one hospitalization or one visit for MHA in a one-year period were included. A 365-day look back period was used to identify repeat ED/UCC visits or hospitalizations for MHA. Patients' demographic characteristics, socio-economic status and reasons for hospitalizations and/or ED/UCC visits were described.

Results: In 2017-2018, among those who were discharged from a general hospital with a MHA condition, 12% had 3 or more hospital stays in a year. Mood, affective disorders, substance-related and psychotic disorders were the main reasons for the repeated hospitalizations. At the same time, many patients with MHA conditions used ED/UCC services, 1 in 10 of those captured in the data visited ED or UCC at least 4 times, accounting for 36 % of total MHA visits in a year. The main reason for the frequent use of ED/UCC services was substance-related disorders; some had multiple MHA conditions. These frequent users are generally young (median age=33) and reside in the least affluent neighborhoods. A quarter of them repeatedly used both ED and general hospital beds.

Conclusion: High usage of hospital beds, ED/UCCs by people with MHA conditions can indicate lack of or poor access to community mental health or addictions services. Regular monitoring can help track progress towards improvement. An examination of the variability in hospital and ED/UCC use across jurisdictions could help identify best practices.

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Author: Dara Gordon

Title: Innovative Strategies for Inter-sectorial Collaboration between Mental Health, Housing, and Health Care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: One of the keys to achieving better system and health outcomes depends on addressing the complexity of circumstances for people with both medical and social needs. People who have multi-morbidities including mental illness, are under-housed or homeless, and who lack other social supports are often underserved by the health system. The solution to this challenge is supporting these people better outside hospitals. We present concrete steps for stakeholders to work toward achieving this.

Approach: In collaboration with health and social care partners, we convened a one-day symposium in March 2018. Sixty-two people attended representing people with lived experiences, the hospital sector, the municipal and provincial governments, community support agencies and researchers.

The symposium included a moderated panel discussion featuring people with lived experience of homelessness and community-based support workers. Following sessions focused on sharing innovations in policy and practice. Breakout sessions highlighted meaningful solutions to engaging people with lived experience, organizational collaborations and policy-level innovations. Following the symposium, we analyzed the in-depth notes taken throughout the day to identify the four themes below.

Results: These four themes represent the most important points of discussion during the symposium. Each theme includes specific action items that are targeted to service providers, organizational leaders and governments.

1. Employ people with lived experiences and work with them to co-design services. This includes supporting peer work, and that engagement of people with lived experiences must follow culturally safe, trauma-informed approaches.
2. Review or simplify institutional policies and rules that do not support people-centred care. This involves identifying operational rules that might interfere with people-centred care and innovation.
3. Look at novel ways of working together (Governance). This involves identifying concrete opportunities for collaboration across sectors.
4. Use innovative funding models that enable improved outcomes more efficiently. This involves better aligning funding.

Conclusion: While many of these points could be addressed immediately, we see a tension between two strategies for achieving these goals: identify best practices and implement them everywhere ("spread and scale"), or promote local innovation because local providers know best ("local design"). We believe strategies aligned with both approaches are necessary.

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Author: Dara Gordon

Title: An International Survey of the Design of Innovative Models of Care for Patients with Complex Needs

Type of Abstract: Oral Presentation: Standard

Background and Objectives: This research outlines an international study in partnership with the Commonwealth Fund to survey 11 countries on innovative models of integrated care for populations that are characterized as being “high need, high cost”; a small proportion of the population which account for a large proportion of health service expenditures. This group is often poorly served by fragmented health systems, with a poor experience of care and suboptimal outcomes.

Approach: This study’s methodology involved case studies with a standardized survey. The study used a purposive sampling strategy that involved researchers and senior policymakers in 11 countries to identify innovative integrated health and social care programs. They were asked to collect data on potential programs using a structured nomination form and to submit these forms to the research team for review. 30 programs were selected for detailed data collection based on novelty, target population and maturity. A web-based survey tool with a mix of multiple choice questions and open-ended explanations was used to collect data from each program.

Results: The sample included 16 models targeting people with multiple comorbidities, 10 for frail older adults and 4 for people with severe mental health concerns. We found that all of them reported activities within the functions of segmentation, coordination and engagement, with varying degrees of intensity. The majority used more rigorous approaches to defining eligibility and recruitment, but there was wide variation in the intensity of coordination strategies, particularly management of transitions and platforms for sharing information across providers. For engagement of patients and caregivers, 23 programs reported having intensive approaches to patient self-management support, but only 12 reported having intensive approaches to supporting caregivers. Twenty three of the models had scaled beyond their initial sites and were the subject of external evaluations.

Conclusion: Models of care for people with complex needs across a range of countries have a shared focus on segmentation of patients, coordination, and engagement. Though the intensity of each function varies, there are now many opportunities for shared learning through replication of promising features or adaptation to new settings.

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ID: 160

Author: Jenn Green

Title: Economic Evaluation of Whole-of-Government Approaches to Mental Health and Addictions: Is a New Paradigm Required?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The economic costs of mental health and addictions (MHA) in Canada are estimated to be \$50 billion and \$38.4 billion per year, respectively. Major MHA reform and increased investment have been recommended. Whole-of-government approaches to addressing 'wicked', solution-resistant MHA challenges and a lack of whole system accountability are increasingly being adopted internationally, necessitating understanding their cost-effectiveness. This research explores whether effective economic evaluation frameworks exist and/or are being utilized for intersectoral initiatives.

Approach: A review of current published international white and gray health economics and policy literature was conducted to identify issues and considerations in the economic evaluation of whole-of-government approaches to MHA interventions. The core issues are outlined, particularly those within the context of current health technology assessment guidance for health decision-making, which recommend as its reference case a cost-utility analysis that values health using quality-adjusted life years (QALYs), considers costs from the health care payer perspective, and weights all outcomes equally. This is followed by discussion on the potential ways forward within this emerging policy context.

Results: The economic evaluation of whole-of-government MHA exists at the intersection of three challenges to current methods: 1) the meaningful assessment and inclusion of broader recovery-oriented well-being and welfare outcomes; 2) incorporating a societal perspective that is equally inclusive of non-health externalities; and 3) evaluating intersectoral interventions within complex systems. Current guidance for economic evaluation may therefore not fully achieve its intended purpose for whole-of-government MHA interventions. Various potential solutions have been proposed, including: valuing well-being rather than health, using monetary-based measures (e.g., willingness-to-pay) to value outcomes in a cost-benefit analysis, and using techniques that are better able to manage decision-making within the complexity of multiple criteria and outcomes outside of simple multiplicative relationships, such as multiple-criteria decision analysis (MCDA) and ordinal (e.g., logit/ranking/discrete choice) methods.

Conclusion: Whole-of-government interventions for MHA will not be simple, and will require similarly complex economic evaluations. There are advantages and disadvantages to each proposed solution but regardless, these overarching principles are of importance: stronger stakeholder, particularly consumer/persons with lived experience, involvement; continuous improvement of evaluation methods; and maintaining meaning for decision-makers.

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Author: Lauren E. Griffith

Title: Measuring Agreement on Multimorbidity across Data Sources: A Comparison of Administrative and Self-Report Data

Type of Abstract: Oral Presentation: Standard

Background and Objectives: While many researchers have examined agreement between self-reported and administrative data on individual chronic conditions (CCs), few have examined the implications for measuring multimorbidity. We used data from Ontario to examine agreement between administrative and self-reported CCHS data for 12 individual CCs, the overall number of CCs, and the constituent CCs. We further examine the impact of individual CCs on the agreement on the overall number of chronic conditions between the two data sources.

Approach: We used self-report data from 71,317 Ontario participants aged 45+ from four cycles of the Canadian Community Health Survey (CCHS) linked with provincial administrative databases. The prevalence of individual CCs and the overall number of CCs was estimated using administrative data and self-reported clinical diagnosis. Agreement for each of 12 CCs was assessed using Kappa and Phi statistics. We then examined agreement between data sources on the absolute number of CCs, and agreement on the number and constituent CCs which we called “perfect agreement”. Jackknife methods were used to assess the impact of each CC on perfect agreement.

Results: Individual CC agreement varied from $\kappa=8.9$ (stomach ulcers) to $\kappa=77.6$ (diabetes). The average number of CCs was higher using administrative data (1.87) compared to self-report (1.64). There was agreement between the two data sources on the number of CCs for 37.5% of participants; 26.9% had perfect agreement and 10.6% agreed on the number but not constituent CCs. Perfect agreement decreased as the number of CCs increased, varying from 28.4% for 1 CC to 3.2% for 5+. The impact of each condition on multimorbidity perfect agreement depended on both the individual conditions’ agreement and prevalence. For example, removing Alzheimer’s disease ($\kappa=42.78$, prevalence=1.1%) from the CC list had the smallest impact, increasing agreement by 0.1%, whereas removing arthritis ($\kappa=30.22$, prevalence 44.8%) increased it by 13.4%.

Conclusion: Multimorbidity agreement was low and decreased as the number of CCs increased. Our results show that measuring agreement on multimorbidity is more complex than for individual conditions. Our results have potential implications for interpreting multimorbidity prevalence measures, estimates of its impact in clinical research, and comparing results across studies.

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Author: Lauren E. Griffith

Title: Measuring Frailty across the Age Spectrum in the Canadian Longitudinal Study on Aging

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Frailty has been conceptualized as a state of increased vulnerability to stressors that allows for the assessment of variability in resilience in older individuals. Currently there is sparse population-based data on the burden (prevalence) and patterns (distribution) of frailty in Canada. This study assessed frailty from a population health perspective using data from over 50,000 participants of the Canadian Longitudinal Study on Aging (CLSA).

Approach: A Frailty Index (FI) was created based on the ratio of present to potential health deficits ($n = 90$) using baseline CLSA data collected on community-living Canadians aged 45-85 years. Multiple imputations were used to create 10 complete datasets for analysis. Using average FI, we examined how the burden and patterns of frailty differed by the characteristics identified in the Pan-Canadian Health Inequalities Report as social stratifiers associated with population health status. We further divided FI items into 3 domains (physical function, chronic conditions [multimorbidity], psychological/social factors) and examined the burden and patterns of these domain-specific indices across subpopulation partitions.

Results: The mean FI of the 50,324 CLSA participants was 0.13 ± 0.08 , increased with age, and was higher in women. Higher mean FIs were found among participants with low-income (0.20 ± 0.10), who did not complete secondary education (0.17 ± 0.09), or had had a low perceived social standing (0.18 ± 0.10). FI was not associated with province of residence or urban/rural status. After simultaneously adjusting for subpopulation partitions, income explained the most heterogeneity in the FI with a similar pattern found in women and men. The heterogeneity with income was greater in the younger age groups compared to the older age ones. When examining the patterns by frailty domains, the heterogeneity appears to be driven more by psychological/social factors than physical function deficits or chronic conditions.

Conclusion: Frailty differed across population partitions associated with health inequality. After adjustment for other factors the greatest heterogeneity was found across income gradient. This disparity was similar in both sexes but more pronounced in younger participants and was driven primarily by the psychological/ social factors used to calculate the FI.

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ID: 518

Author: Agnes Grudniewicz

Title: Use of digital technology in learning health systems: a scoping review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Healthcare leaders and researchers have articulated the need to transform health systems into rapidly learning health systems (LHSs). While digital technology has been envisioned as providing the power for LHSs by generating timely evidence and supporting best care practices, we do not know if it is indeed playing this role in current LHS initiatives. This scoping review aims to provide an understanding of how and to what extent digital technology is used within LHSs.

Approach: Multiple databases and grey literature were searched with terms related to LHSs using a search strategy developed with a health sciences librarian and in consultation with two knowledge users. Record selection was done in duplicate by two reviewers applying pre-defined eligibility criteria based on digital technology and LHSs at the abstract and full text levels. Data was extracted from selected records by two reviewers using a piloted data charting form. Results are currently being synthesized through a descriptive numerical summary and a mapping of digital technology use onto known and emerging dimensions of LHSs.

Results: We identified 884 records after duplicates were removed. Title and abstract screening resulted in 529 studies for full-text review. Full text screening is currently under way and data extraction will be completed by spring 2019. The literature will be synthesized through a descriptive numerical summary and categorized into themes in terms of type of digital technology identified, their degree of implementation, and the evaluation of their effectiveness. A framework-based synthesis approach will be used to map digital technology onto known and emerging dimensions of LHSs. Preliminary results show that despite the widespread reporting of the use of data and technologies in LHSs, the current literature lacks explicit and transparent discussions about how technologies are leveraged to support LHSs.

Conclusion: We will present a detailed summary of how digital technology is used to make the LHS vision a reality. The results have policy implications as governments look to improve system efficiency. Health care providers may be interested in the results as digital technology is likely to change their practice.

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ID: 604

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Title: Knowledge and Motivations of Researchers Publishing in Presumed Predatory Journals: A Survey

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The threat of predatory journals adds a layer of complexity to the journal selection process. There is a sense that predatory journals exploit the open access model, often by “spamming” researchers with offers of rapid publication at a much lower cost than legitimate open access journals, or without acknowledging that manuscripts are subject to publication fees. Our objective was to examine the motivations and experiences of biomedical researchers who have submitted to presumed predatory journals.

Approach: Using Beall’s list and OMICS journals, we identified corresponding authors of published empirical articles in biomedical journals presumed to be predatory. We conducted an online survey asking for basic demographic information, respondent’s research status and publication record, as well as questions about researchers’ perceptions of publishing in the presumed predatory journal, type of article processing fees paid, and the quality of peer review received. The survey also asked six open-ended items about researchers’ motivations and experiences. We reported descriptive statistics for characteristics of the participants, summary statistics for quantitative items, and conventional content analysis for open-ended survey items.

Results: We sent our survey to a total of 583 potential participants. Eighty-two partially responded (~14% response rate) to our survey (N= 59 male, 72.8%). The top three countries represented were India (N=21), USA (N=17), and Ethiopia (N=5). Only 3 participants thought the journal they published in was predatory at the time of article submission. The majority of participants first encountered the journal via an e-mail invitation to submit an article (N= 32, 41.0%), or through searching online to find a journal with relevant scope (N=22, 28.2%). Most participants indicated their study received peer review (N=65, 83.3%), and that this was helpful and substantive (N=51, 79.7%). More than a third (N=32, 45.1%) indicated they did not pay fees to publish.

Conclusion: This work provides important evidence to inform policy to prevent future health research from being published in predatory journals. Our research suggests that common views about predatory journals (e.g., no peer review) may not always bear true, and that a grey zone between legitimate and predatory journals exists.

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ID: 95

Author: Vera Grywacheski

Title: The prevalence of mental health conditions among persons who died from opioid toxicity

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canada continues to experience a worsening opioid crisis. To inform prevention efforts, there is a need to better understand the characteristics of persons who have died from opioids including the impact of co-occurring mental health conditions.

An analysis of opioid-related deaths was conducted in collaboration with the Nova Scotia Medical Examiner Service and the Canadian Institute for Health Information. The objective was to describe the mental health of persons who died from acute opioid toxicities.

Approach: A chart abstraction was completed for acute opioid toxicity deaths occurring between January 1st, 2011 and June 30th, 2016 in Nova Scotia (n=321). Reported mental health conditions and prescribed medications were obtained from a variety of sources including medical records, family physicians, police reports, family members and friends. The abstracted data was examined for reliability and consistency. Descriptive statistics were calculated and compared to results for the general Canadian population from the 2012 Canadian Community Health Survey – Mental Health (CCHS) from Statistics Canada.

Results: Mental health information was not available for some decedents, with fields ranging from 20% to 24% unknown. Depression was reported to affect 46% of cases; 4 times greater than the self-reported lifetime prevalence of depression in the general Canadian population (11%). Anxiety (31%), ADHD (9%), bipolar disorder (6%), and schizophrenia (2%) were reported to affect greater proportions of cases than expected compared to national prevalence estimates (9%, 3%, 3%, and 1%, respectively). Overall, 70% of decedents were reported to have been recently prescribed at least one drug for mental health. More than half of decedents (51%) had recently been prescribed benzodiazepines. One or more benzodiazepine(s) contributed to half of all deaths due to opioid toxicity.

Conclusion: Most people who died due to opioid toxicity were reported to have experienced mental health conditions. Focused interventions may play a role in reducing opioid-related harms. As mental health information was unavailable for some decedents, the prevalence of the conditions considered may be underestimated here.

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ID: 170

Author: Qi Guan

Title: Assessing the Impact of Opioid Prescribing Guidelines for Dentists in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Dental opioid prescribing guidelines were introduced in November 2015 in Ontario, Canada, which suggested limits on opioid prescription duration and quantity. As dentists are the second highest prescribers in this province, we sought to examine the impact of these guidelines on their prescribing patterns.

Approach: We conducted a population-based, time series analysis on Ontarians who received a prescription opioid from a dentist between July 1, 2012 and September 30, 2017. We report the rate of individuals dispensed prescription opioids per 100,000 population, and the population opioid exposure in total morphine milligram equivalents (MME) per 100,000 population, monthly over the study period. We used interventional autoregressive integrated moving average (ARIMA) models to examine the impact of the dental opioid prescribing guidelines on prescribing patterns.

Results: Overall, the rate of individuals dispensed prescription opioids remained stable over the study period (range from 161 to 140 per 100,000 population between July 2012 and September 2017), while the volume dispensed decreased by 23.2% between January 2016 and September 2017 (from 20.7 MME to 15.9 MME per 100,000 population). The dental opioid prescribing guidelines had a significant impact on the volume of opioids dispensed to dental patients ($p=0.01$).

Conclusion: The introduction of dental opioid prescribing guidelines in Ontario significantly impacted prescribing practices, signalling increased prescribing awareness among dentists. Future studies should examine frequent prescribers and long-term opioid use among dental patients.

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Author: Sara Guilcher

Title: Spinal cord injury and medication management: A descriptive qualitative study exploring the experiences of community-dwelling adults in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Individuals with spinal cord injury or dysfunction (SCI/D) frequently experience secondary complications and multimorbidity, which are often treated with multiple medications (polypharmacy). Polypharmacy has been linked to negative health outcomes, highlighting the importance of optimal management. However, there is a lack of research on experiences with medication management and SCI/D. The aim of this study was to explore the attitudes, beliefs and experiences of persons with SCI/D pertaining to prescribed and unprescribed medications.

Approach: Using a social constructivist approach, this descriptive qualitative study explored the experiences of community-dwelling adults with SCI/D. For inclusion, participants were required to meet the following criteria: adults (18+ years of age); at least one year post-injury; residing in Ontario; English speaking and cognitively able to give consent. Participants were recruited through local organizations and purposeful snowball sampling. Nineteen in-depth, semi-structured interviews were conducted by telephone. The interviews were audio-recorded, transcribed verbatim and analyzed using inductive thematic analysis. Interviews were conducted until thematic saturation was reached.

Results: Of the 19 participants, 11 were male and 8 were female, with an age range from 36 to 76 years (median age of 57 years); 14 participants had traumatic SCI and 5 had non-traumatic spinal cord dysfunction. All but three participants were taking five or more medications, which included prescription medications, over-the-counter medications and natural health products. Despite the majority of participants reporting adequate ability to manage their medications, each went through a complex process to integrate medication management strategies into their everyday life. The three main themes identified were: (1) disruptive nature of medications; (2) fear of change; and (3) self-management: playing a role in medication management.

Conclusion: Medication management is complex and multifaceted. Based on the findings from this study, recommendations for future research, practice and policy will be suggested. These recommendations identify approaches to optimizing medication management, with the goal of improving both quality of care and quality of life for persons with SCI/D.

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ID: 216

Author: Sara Guilcher

Title: Spinal cord injury and polypharmacy: A scoping review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Persons with spinal cord injury or dysfunction (SCI/D) are at risk of developing secondary complications and multimorbidity. Due to the nature of these complications, many persons with SCI/D are on multiple medications (polypharmacy). Polypharmacy has been linked to negative outcomes; however, there are several limitations to our knowledge on the topic for this population. The purpose of this scoping review was to map the scope of the literature on polypharmacy among individuals with SCI/D.

Approach: Five electronic databases were searched for relevant literature. Keywords, such as spinal cord injuries, multiple medications and polypharmacy were searched using Boolean operators, wild cards, proximity operators and truncations. For inclusion, studies were required to meet the following criteria: (1) individuals with SCI/D who were prescribed or taking multiple medications; and (2) published between January 1, 1990 and July 31, 2018. The initial search identified 1,459 articles, with 1,098 remaining after the removal of duplicates. Following the title and abstract screen, 81 full-texts were reviewed, and 18 met all the eligibility criteria for inclusion in the review.

Results: Of the 18 studies included in this scoping review, less than half defined polypharmacy. Definitions varied in the types and number of medications. The most common threshold for polypharmacy was five medications (n=4 articles), but other definitions had thresholds of nine medications (n=1) and ten medications (n=2). Older age, higher level of injury and greater severity of injury were factors related to polypharmacy. Negative clinical outcomes related to polypharmacy were also identified; these outcomes included: drug-related problems (e.g. intoxication caused by drug interaction, adverse drug events) and bowel complications (e.g. antibiotic-associated diarrhea and constipation). Only one of the included articles qualitatively explored participants' beliefs about medications.

Conclusion: A paucity of research on polypharmacy post-SCI/D was identified, highlighting a need for future research. There is a need to better understand factors and clinical outcomes related to polypharmacy in persons with SCI/D and to explore experiences of persons with SCI/D, caregivers and clinicians relating to polypharmacy.

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ID: 229

Author: Sara Guilcher

Title: Roles of health care providers in supporting medication therapy management for individuals with spinal cord injury

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Individuals with spinal cord injuries (SCI) often take multiple medications to treat their secondary complications and chronic conditions (multimorbidity). They generally see multiple clinicians to manage their multimorbidity, which can result in increased risk of fragmented care. As such, optimal medication management (MM) is essential to ensure therapeutic benefit from medication regimens. However, little is known about the experiences and perceptions of clinicians regarding their roles in supporting this population with MM.

Approach: Telephone interviews were conducted to explore clinicians' experiences with MM for individuals with SCI. Participants were recruited through clinical organizations and researchers' personal contacts. Participants were purposefully selected for diversity in profession and were required to be English speaking and to have provided care to at least one individual with a SCI. The interviews involved quantitative (confidence level scales for different medication therapy management tasks) and qualitative (open-ended, semi-structured) questions. Descriptive statistics summarized the quantitative data. Qualitative data were transcribed and coded using NVivo 11. Data display matrices were used in a constant comparative process for descriptive and interpretive analysis.

Results: Thirty-two interviews were conducted from April to December 2018. The median confidence of participants in supporting this population with MM was 8 on a 10-point scale. Family physicians viewed themselves as information keepers and coordinators/liaisons with other clinicians. Specialist physicians viewed themselves as advocates and collaborators for patient care. Similarly, care coordinators and health educators adopted advocacy roles, in addition to educating patients on navigating the health care system. Pharmacists were medication dispensers and educators. Rehabilitation professionals played a supportive role ensuring medications could be physically accessed. Clinical tasks were shared among the different health care providers, including: tailoring medications, exploring medication alternatives, assessing medication risks/benefits and providing education. Enabling factors for improving MM included clinician knowledge/confidence, information sharing, clinician-patient relationships and patients' medication knowledge.

Conclusion: Each profession had distinct views on their roles in facilitating MM for individuals with SCI. Generally, these roles were within the respective scopes of practice. Through sharing these clinical roles and educating clinicians on MM, individuals with SCI may benefit from more comprehensive support for their MM related concerns.

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Title: Factors affecting medication adherence for persons with spinal cord injuries: A clinical conceptualization

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Individuals with spinal cord injuries (SCI) often take multiple medications (i.e. polypharmacy) to manage their secondary complications and chronic conditions. Clinicians play a supporting role in assisting individuals with SCI with their medication self-management, including medication adherence. Therefore, the purpose of this study was to explore clinicians' experiences and perceptions of factors that impact medication adherence for this population.

Approach: Telephone interviews were conducted to explore clinicians' experiences with medications management for individuals with SCI. Participants were recruited through clinical organizations and researchers' personal contacts. Participants were purposefully selected for diversity in profession and were required to be English speaking and to have provided care to at least one individual with SCI. Interviews were qualitative in nature with open-ended, semi-structured questions. Data were transcribed and coded using NVivo 11. Data display matrices were used in a constant comparative process for descriptive and interpretive analysis.

Results: Thirty-two interviews were conducted from April to December of 2018. Clinicians identified 13 factors that impacted medication adherence for individuals with SCI. Clinical roles influenced the identification and emphasis placed on the impact of different factors. Factors were categorized into micro (medication and patient-related factors), meso (clinician-related factors) and macro (health systems-related factors) levels. Medication-related factors included side effects, effectiveness, safety and regimen complexity. Patient-related factors included knowledge and education level, preferences, expectations and goals, severity of injury and comorbidities, access to caregivers and use of adherence strategies (e.g. compliance packaging). Clinician-related factors included knowledge/confidence and trust and relationships with patients. Health systems-related factors included access to health care (e.g. transportation, wait times) and access to medications (e.g. cost, medication delivery, refill policies).

Conclusion: Clinicians identified an array of factors that influence medication adherence for individuals with SCI. Micro-level factors were the most abundantly discussed by all clinicians. Study findings indicate medication adherence is a complex concept. Thus, strategies to optimize medication adherence for individuals with SCI should be multi-faceted.

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Title: Optimizing support and service delivery for problem gambling among people living with complex needs: A concept mapping study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Problem gambling is a major public health concern, especially among persons who are homeless, living in poverty or who have other complex health and social needs. Problem gambling has been connected to a variety of negative health and social outcomes; however, current healthcare services rarely address problem gambling. With support from community partners, the purpose of this study is to understand how to improve screening for problem gambling among those with complex needs.

Approach: Concept mapping, a mixed-method participatory approach, was conducted with healthcare and social service providers from Ontario. Three phases of activities were conducted with either in-person or online participation: 1) Brainstorming, 2) Sorting/Rating and 3) Mapping. Brainstorming sessions were conducted to generate statements, guided by the focal prompt: “what would help you screen for problem gambling in your daily practice?” Participants were then invited to sort statements into categories and rate them based on their importance and feasibility. A mapping session provides an opportunity for participants to co-create visual representations of the data.

Results: To date, 29 participants have taken part in the in-person or online concept mapping sessions. Participants generated a total of 213 statements, which the research team condensed into a final list of 45 statements. The qualitative responses were analyzed using multidimensional scaling and Hierarchical Cluster Analysis and displayed visually using the concept mapping software. In the mapping session, participants assisted with the collaborative interpretation of the data to develop a final concept map to reflect the data collected during the brainstorming and sorting and rating activities. Participants highlighted the importance of a screening tool, buy-in, professional development, client-centered care and organization policies as factors that would help improve screening for PG.

Conclusion: By addressing the needs of social service and healthcare providers, this study will co-develop actionable recommendations that will assist them in routinely screening for problem gambling in their daily practice. This process improvement will advance the delivery of services for persons experiencing problem gambling and complex health and social needs.

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Title: Food insecurity and preventable hospitalizations among Canadians with diabetes: a population-based assessment using linked survey and administrative data

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Some studies have found food insecurity to be more prevalent among persons with diabetes mellitus. Others have pointed to a social gradient in diabetes hospitalizations, but have tended to be limited in terms of scale or accounting for individuals' health status. This research takes advantage of national health survey data linked to clinical records to assess the association between food insecurity and potentially avoidable hospitalization, focusing on the high-risk diabetic population.

Approach: We link multiple years of Canadian Community Health Survey data (2007, 2008, 2011) with hospital records from the Discharge Abstract Database (2005/06 to 2012/13), covering 98% of the population in 12 of Canada's 13 provinces and territories (excluding Quebec). We use multiple logistic regression to test the association of household food insecurity with the risk of hospitalization for types 1 and 2 diabetes and comorbid ambulatory care sensitive conditions among persons aged 12 and over living with diagnosed diabetes. Results are expressed in terms of odds ratios and associated 95% confidence intervals.

Results: Data linkage allowed us to analyze hospital records for 10,260 survey respondents living with diabetes. Among the community-dwelling diabetic population, 10.5% experienced food insecurity, and 5.5% had been hospitalized for diabetes or a comorbid chronic condition in the period of observation. The regression results indicated that the odds of experiencing a diabetes-related hospitalization were significantly higher among diabetic persons who were food insecure compared to their counterparts who were food secure (OR=1.88 [95%CI=1.06-3.32]), after controlling for age and other demographic characteristics. Being female was slightly protective of the risk of hospitalization, but the association was not statistically significant (OR=0.97 [95%CI=0.70-1.35]).

Conclusion: We found food insecurity to significantly increase the odds of hospitalization among Canadians living with diabetes. These results reinforce the need to consider food insecurity in public health and clinical strategies to reduce inequalities in the hospital burden of diabetes and other chronic diseases, from primary prevention to post-discharge care.

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Title: The Case Management Challenge: A systematic review and thematic synthesis of barriers and facilitators to case management in primary care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Background: In response to an aging global population with increased chronic illness, case management (CM) has emerged as a powerful innovation to address the health challenges of patients with complex needs. Despite growing evidence on the benefits of CM for the care of these patients, implementation of CM in primary care has been challenging worldwide. There remains a dearth of synthesis of evidence surrounding the barriers and facilitators to conducting CM, especially in primary care.

Approach: Approach: A systematic review and thematic synthesis of qualitative findings was conducted. In collaboration with an academic medical librarian, three electronic databases (OVID Medline, CINAHL, Embase) were searched for qualitative and mixed-methods studies related to factors (barriers and/or facilitators) affecting CM in primary care. Titles, abstracts and full texts were screened and selected. Included studies were assessed for quality. Every step was conducted by two researchers. Results from included studies were synthesized according to the method of Thomas and Harden (2008).

Results: Of the 1572 unique records initially located, 19 studies, originating from six countries, met the inclusion criteria. Nine factors affecting the ability of primary care teams to conduct CM were identified: "Family Context", "Policy and Available Resources", "Physician Buy-In and Understanding of the Case Manager Role", "Team Communication Practices", "Training in Technology", "Relationships with Physicians", "Relationships with Patients", "Time Pressure and Workload", and "Autonomy of Case Manager". These factors are described, then presented in a schematic representation designed to demonstrate the relationships between factors. Policymakers should devote special attention to developing infrastructure that encourages colocation of clinicians; providing training in efficient technologies for patient assessment and care coordination; and working with clinicians to determine the resources required to meet patient and staff needs.

Conclusion: Conclusion: Understanding these barriers and facilitators may allow for the development of policy- or clinic-level interventions to improve CM function and, by extension, to provide better care for patients with complex needs. Such findings may be relevant to researchers, clinicians or managers doing CM, and to policymakers designing CM programs.

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Title: Inequalities in Psychological Distress and Suicidal Behaviour Between Indigenous and Non-Indigenous Populations in Canada: What Explains the Differences?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Inequalities in the psychological distress and suicide rates between Indigenous and non-Indigenous population continue to exist in Canada. Using data from the 2012 Canadian Community Health Survey – Mental Health (n= 25,113) we investigated demographic, socioeconomic, sociocultural and geographic factors underlying the variation in the prevalence of moderate-to-serious psychological distress (10-item Kessler Psychological Distress Scale [K10] scores > 24) and lifetime suicidal ideation and lifetime suicide plan between Indigenous populations living off-reserve and non-Indigenous population.

Approach: An extension of the Blinder–Oaxaca (BO) technique to non-linear models was used to decompose the differences in the prevalence into two parts: the proportion attributable to the different levels of the covariates between Indigenous and non-Indigenous populations (the endowment effect or explained part) and a proportion attributable to those covariates having different effects on psychological distress and suicidal behaviours in Indigenous and non-Indigenous populations (the response effect or unexplained part).

Results: The prevalence of moderate-to-serious psychological distress, lifetime suicidal ideation and lifetime suicide plan among the non-Indigenous population in Canada were found to be 5.8, 9.5, 2.4%, respectively. The corresponding figures for Indigenous peoples were 10, 18.6 and 7.8%, respectively. We found that the variation in psychological distress is mostly explained by the differences in the sociodemographic, socioeconomic and sociocultural factors between Indigenous and non-Indigenous populations in Canada. The results indicated that if covariates (e.g., income and employment status) were made to be identical in Indigenous and non-Indigenous populations, the difference in the psychological distress between these populations would have been reduced by 77%. The differences in the prevalence of lifetime suicidal ideation and lifetime suicide plan, however, were mainly explained by the response effect.

Conclusion: Improving covariates among Indigenous peoples through plans like income equalisation or education subsidies may reduce the gap in psychological distress between Indigenous and non-Indigenous populations in Canada. Since the response effect chiefly explains variations in suicidal behaviours, further research is required to understand these differences in Canada.

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Title: Towards an Organizational Participatory Research Evaluation Method: Protocol of a Mixed Methods Validation Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Organizational participatory research (OPR) involves researchers partnering with health organization stakeholders to improve organizational practices. A previous review led to a comprehensive OPR partnership framework. However, no questionnaire evaluates all dimensions of the framework and, therefore, OPR partnerships. This study aims to develop and validate a questionnaire for assessing the dimensions of OPR health partnerships. (O1) Identify the most essential items for each dimension of the framework and (O2) validate them with OPR health stakeholders.

Approach: Two-phase mixed methods validation study. Phase 1 (O1): e-Delphi: 30 OPR stakeholders will build consensus on the most essential items for the dimensions of the OPR framework, using a 5-point Likert scale. An initial questionnaire (V1) will be drafted based on Phase 1 results. Phase 2 (O2): Ecological validation: At least 20 stakeholders, recruited from the authors' OPR health projects, will complete the V1 questionnaire and take part in focus groups to comment on the clarity, relevance and representativeness of the items. The divergence/convergence of Phase 1 and 2 results will inform questionnaire content and format changes.

Results: A modified version of the questionnaire (V2) will be made, named the Organizational Participatory Research Evaluation Method (OPREM).

Conclusion: This study will produce a validated questionnaire to assess partnerships between health organization stakeholders and researchers. The questionnaire will be distributed nationally and will provide health organization stakeholders information to help them improve their partnerships with researchers and consequently may help to improve health organization practices across Canada.

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Author: Rebecca Hartley

Title: Development and Internal Validation of a Prediction Model for Acute Paediatric Hand Fracture Triage

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Referrals of acute pediatric hand fractures to hand surgeons are common, costly, and possibly unnecessary. An easy-to-use tool to quantify necessary referral would help clinicians identify patients who might benefit from referral and who might be appropriate for an alternate level of care provider. Our objective was to derive and internally validate a prediction model to aid Emergency Department (ED) physicians in determining necessary referral of acute pediatric hand fractures.

Approach: In a cross-sectional study, 21 variables were collected in patients 17 years and younger with a radiographically confirmed hand fracture who were consecutively referred to the Alberta Children's Hospital hand clinic in Calgary, Alberta over two years (January 2013 - December 2014). The primary outcome was necessary referral, defined as any of (1) surgery, (2) closed reduction or (3) four or more hand surgeon appointments. We used multivariable logistic regression with bootstrapping to derive and internally validate an index to predict fracture acuity. Model discrimination was assessed by an optimism-adjusted c-statistic and calibration by deciles of risk and calibration

Results: Of 1,173 hand fractures, 417 (35.6%) met criteria for necessary referral. A risk index was created with points assigned to six strong predictors based on their regression coefficients: open fractures (2 points), malrotation (3 points), displacement (0-2 millimeters = 1 point, 2 millimeters = 2 point), angulation (0-5 = 1 point, 5 = 2 points), dislocation (3 points), and condylar involvement (1 point). Point scores ranged from 0 (4.12% expected risk of referral) to 11 (100% expected risk). A scatterplot of points score versus referral revealed a concave curve flattening out at 6 points (84.44% expected risk), with maximum expected risk (100%) at 8 points and above. Model discrimination was strong (C-statistic: 0.86) and calibration was good except at the

Conclusion: We derived and internally validated a prediction model for necessary referral in acute pediatric hand fractures. While these results require external validation prior to use in clinical practice, this tool may help identify high risk patients and allow for targeted referral, thus avoiding unnecessary referral and cost while providing safe patient care.

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Author: Lindsay Hedden

Title: Models of primary care practice and priorities for structural reform in British Columbia: a cross-sectional survey

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite increases in primary care physicians per-capita, BC is facing a substantial shortage. System-level reform is ongoing; however, we have limited information about how family physicians, who currently provide nearly all primary care in BC, structure their practices, nor their priorities for reform. We sought to 1) accurately describe family doctors' models of practice and the implications of these models for service capacity; 2) explore physicians' perspectives on priorities for structural reform to primary care.

Approach: We modified surveys developed for the Atlantic Canada Models and Access Atlas for Primary Care (MAAP) project to match local context. All primary care physicians credentialed within Vancouver Coast Health (VCH) Authority were invited to participate (N=1017). Respondents were asked to self-identify the model of practice that best describes their work: community-based family practice (CBFP), hospital or facility-based, locum, or non-clinical. We compared features within and across respondent groups, including personal and practice location characteristics, hospital and teaching work, payment and appointment characteristics, and priorities for system-level reform. We discuss the implications for access to CBFP and for ongoing reform.

Results: We received responses from 541 (53.2%) physicians. 355 (67.5%) identified their practice style as CBFP; however, only 112 of them (31.6%) work full-time in CBFP. The remaining 243 (68.4%) work part-time in non-CBFP locations. 139 (40%) physicians providing CBFP reported panel sizes < 500 patients. 399 (73.8%) physicians indicated a need for fundamental change to how primary care is delivered. 244 (47.6%) reported they would prefer to be an employee of a clinic, rather than a small business owner. Other identified priorities for reform included options to practice in a team (reported as somewhat/very important by 91.3% of respondents), direct funding for team roles (91.3%), direct clinic funding (83.2%), part-time work options (92.8%) and parental leave (92.8%). Priorities for reform were consistent across practice models.

Conclusion: Only 20% VCH's primary care physicians are working full-time in CBFP. Half would prefer to be employees of a clinic, a model that has very limited availability in the province. The lack of availability of this model may push physicians away from CPBC, contributing to ongoing access issues for patients.

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Title: The accessibility of after-hours care at community-based primary care clinics across Vancouver Coastal Health Authority

Type of Abstract: Oral Presentation: Standard

Background and Objectives: After-hours access to a patient's own primary care provider may be associated with decreased fragmentation of care and reduced use of emergency services. BC's the College of Physicians and Surgeons mandates that all physicians establish a schedule of on-call coverage outside of regular office hours or "make other arrangements to ensure that urgent medical advice is available". This census-based descriptive study characterizes the availability and accessibility of after-hours care across Vancouver Coastal Health (VCH).

Approach: This cross-sectional survey is part of the Models and Access Atlas for Primary Care – British Columbia (MAAP-BC) project. Between Oct 2017-Jan 2018, we identified a complete list of community-based primary care (CBPC) clinics within the VCH region (covering approximately 25% of the population of BC)/ We called the clinics outside business hours, between Jan-Apr 2018, and recorded after-hours phone messages. Messages were analyzed for whether patients could be directed to an on-call doctor, or other services, and how other services are described.

Results: We identified 410 clinics providing CBPHC within the VCH region. Of those 410 clinics, 383 (93%) had an outgoing voice message only, four (1%) answered directly through an answering service, 16 (4%) had a voice message that connected to a live person, and 7 (2%) did not have any after-hours message. The messaging for 264 (64%) clinics provided a mechanism to contact the on-call doctor. Of those, 35 (13%) messages mentioned a possible service fee to speak with the on-call doctor. 69 (17%) of the messages were also provided in a language other than English. 210 (51%) clinics advised calling 911 and 246 (60%) advised visiting the nearest emergency department "in case of emergency".

Conclusion: Less than 2/3 of CBPC clinics in BC provide a way to access an on-call physician after hours, despite the College standard. Visiting the ER was the most frequently mentioned alternative, raising concerns about care fragmentation and use of emergency services for concerns more appropriately addressed by CPBC clinics.

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ID: 66

Author: Billie Jane Hermosura

Title: Dietitians' perceptions of leadership skills: Reflections and considerations for curriculum development

Type of Abstract: Oral Presentation: Standard

Background and Objectives: New competency areas create opportunities to explore how current curricula may meet these requirements and identify learning gaps that must be addressed through curricular redesign or development. "Leadership" is anticipated to be a new competency for dietitians in Canada, however few studies have specifically explored experiences of dietitians in leadership. The primary objective of this pilot study was to gather information on dietitians' perceptions of their roles as "leader" and considerations for curriculum development.

Approach: The participants (n=17) were recruited through purposive sampling. The selection criteria included dietitians who demonstrated leadership or worked in a leadership capacity, and were affiliated with the University of Ottawa's School of Nutrition Sciences program as educators, preceptors, or graduates of the dietetics program. Semi-structured interviews were conducted based on an interview guide, using Critical Incident Technique. Each interview was approximately 30 minutes in duration, and interviews with all participants were conducted by the researcher. The researcher transcribed the interviews verbatim. A content analysis approach was used for coding and generating themes.

Results: The themes were categorized into three sections: Dietitians' perceptions on role as leader, Situations that required leadership skills, and Teaching leadership skills. Dietitians perceived a leader to be self-directed, work effectively with others, set goals, create connections, and see the "big picture". These perceptions of effective and successful leadership in dietitians closely relate to the domains and capabilities of the LEADS leadership framework. All participants thought leadership skills can be taught in undergraduate curriculum. Exposure to concepts in undergraduate training is essential to begin socializing students to various practice competencies.

Conclusion: To improve our understanding of how health providers, such as dietitians, function as part of a health system, it becomes essential to understand their experiences in the workforce. More research is needed in this area to better inform the training needs of future dietitians, and other allied health professionals.

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Title: The Metrics of Acute Care Re-entry: Emergency Department Visits by Recently Discharged Inpatients

Type of Abstract: Oral Presentation: Standard

Purpose: Unplanned re-entry into the acute care system by recently discharged patients is increasingly used as a metric for monitoring healthcare performance. However, the focus of such monitoring has primarily been on inpatient care episodes (hospital readmission) with less attention given to patients presenting to the emergency department (ED) who may be treated and released. These presentations warrant consideration in terms of their cost to the healthcare system and impact on ED patient volumes and flow.

Approach: Although '30-days' is perhaps the most frequently applied metric, its appropriateness has been challenged when the focus is on preventable re-entry. This investigation was undertaken to examine ED use by recently discharged inpatients using three metrics: within 0 to 3 days [rapid re-entry]; 4 to 7 days [early]; and 8 to 30 days [late] of discharge. Descriptive and comparative analyses of 13-months of administrative data from one tertiary hospital (16,379 hospital discharges to home and 57,054 ED visits) were used to examine rate of ED presentations and differences in patient demographic and clinical profiles among the three metrics.

Results: Slightly more than 2,000 ED presentations, comprising approximately 3.5% of all ED visits or 12.2% of hospital discharges to home, involved patients who presented to ED within 30-days of inpatient discharge. Of these ED presentations, 26% were classified as rapid re-entries, 21% as early, and 53% as late. Slightly more than half (51.7%) of all presentations involved women with no significant difference by metric. Statistically significant differences were observed with Rapid Re-entries being younger, with shorter hospital stays, and more likely to present to ED on weekend. The most common presenting concern for Rapid Re-entries was post-operative complication compared to shortness of breath for Early and Late Re-entries. Only one-third of the ED visits resulted in readmission with no significant difference by metric.

Conclusion: Failure to measure ED visits by recently discharged inpatients results in under-estimation of actual rate of acute care re-entry. Establishment of a consistent metric for reporting ED re-entries is needed. Treating rapid ED re-entries (within 0 to 3 days) as reportable critical incidents might facilitate efforts to prevent their occurrence.

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Title: Hospitalizations from alcohol increased in Canada over 3 years

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Alcohol consumption is ingrained in Canadian culture and as a result, harm is not fully appreciated. In fact, approximately 1 in 5 Canadians are problem drinkers. Consumption of alcohol can lead to hospitalizations from mental and behavioural as well as physical conditions. We aimed to measure hospitalizations due to alcohol over time and examine provincial and territorial differences as well as gender and age-specific patterns to inform policy and programming decisions.

Approach: Hospitalizations and day surgeries caused by alcohol were selected from administrative databases in general, psychiatric and day surgery facilities. Data was gathered from all provinces and territories in Canada for 3 years, from 2015 to 2018. Reasons for hospitalizations included short-term (e.g. acute intoxication), intermediate term (e.g. alcohol withdrawal) and long-term (e.g. alcoholic cirrhosis of the liver) causes. The rates were age-standardized using 2011 census data and expressed per 100,000 population.

Results: There were approximately 78,000 hospitalizations from alcohol in 2015-2016, translating to an annual rate of 241 per 100,000 population. This rate has increased by more than 3% over 3 reporting years. A 7-fold variation among jurisdictions was observed in 2015-2016 and grew larger each year. Hospitalization rates for men in 2015-2016 outpaced women (335 vs 151 per 100,000) and that pattern continued. However, the rate for women under twenty-five was higher than for men in 2016-2017 and 2017-2018 (88 vs 87 per 100,000 in 2016-2017 with a wider gap in 2017-2018). Women under forty experienced a large increase in rate of hospitalizations compared to women above forty (15% vs -1%) over 3 years.

Conclusion: Hospitalization rates from alcohol are on the increase and affect both men and women across the age spectrum. These results should be considered in relation to alcohol policies and programs across the provinces and territories to target responses to address harm from alcohol. High rates in young women deserve attention.

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Title: The impact of Ontario's after-hours premium on emergency department utilization

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Following Canadian primary care reform initiatives in the early 2000s, Ontario introduced patient enrolment models (PEMs) combined with the after-hours premium along with several pay-for-performance incentives in delivery of primary care to the population. The after-hours premium, introduced in 2003, was an incentive for specific services provided during after-hours (evenings, weekends, and holidays) by physicians in PEMs to their rostered patients. We investigate the impact of the after-hours premium on emergency department (ED) utilization.

Approach: We used linked health administrative data housed at ICES. A ten percent random sample of Ontario residents was followed from April 2001 to March 2016. We used linear and fixed-effects linear regression models to assess the impact of introduction of the after-hours premium in 2003 and subsequent increases in the value of the premium in 2005, 2006, and 2011 on ED utilization. The outcome of interest was the number of ED visits, measured as the number of visits per 10,000 patients per month, stratified by urgency (defined using the Canadian Triage and Acuity Scale) and timing of ED visit.

Results: For patients whose physician opened practice after-hours, an increase in the after-hours premium by 10 percentage points was associated with 5.6 (95% CI: 4.4, 6.9) fewer total ED visits per 10,000 patients per month and 7.1 (95% CI: 6.4, 7.8) fewer non-urgent ED visits per 10,000 patients per month. The corresponding fixed-effects results showed that an increase in the after-hours premium by 10 percentage points was associated with 2.2 (95% CI: 1.1, 3.4) fewer ED visits per 10,000 patients per month, but the association with non-urgent ED utilization disappeared. Although associated with a reduction in ED utilization for patients whose physician opened practice after-hours, the after-hours premium was not associated with a reduction in ED utilization for all patients rostered in PEMs.

Conclusion: Improving access to after-hours primary care may be an effective means to reduce ED utilization. Ontario's experience suggests that incentivizing after-hours primary care has a limited impact on non-urgent ED utilization. A limitation of our study is the inability to account for individual-level socioeconomic factors that influence ED utilization.

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Author: Amy Hsu

Title: How Much Investment in Palliative Home Care Is Required for One Community Death? the Cost-Effectiveness of Palliative Home Care Using a Population-Based Cohort in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Home-based palliative care has the potential to align patients' preferences for care at home with health system outcomes, such as decreased burdensome transitions, cost, and deaths outside of acute care settings. However, current evidence is inconclusive regarding the cost-effectiveness of home-based palliative care. The objective of this study was to estimate the incremental cost of palliative home care to enable additional deaths in the community (non-institutional) setting.

Approach: Using a population-based cohort of adults over 65 who died between April 1, 2011 and March 31, 2015 in Ontario, we estimated the incremental cost per community death comparing decedents who received end-of-life home care to propensity score-matched individuals who did not receive home care, as well as those who received non-end-of-life home care. Cases and controls were hard matched on the health administration regions they resided in and a history of cancer, then propensity score matched without replacement on age, sex, an interaction term of age with sex, rurality, neighbourhood income quintile, and chronic health conditions at index.

Results: Among those who received end-of-life home care, 66.8% died in the community setting. In contrast, among those that did not receive home care or received non-end-of-life home care, 25.2% and 21.3% died in the community, respectively. Decedents who received end-of-life home care had a higher average cost of \$25,532 (95% CI \$25,285–\$25,779) in the last 90 days of life, compared to \$25,118 (95% CI \$24,595–\$25,640) among those who did not receive home care. This represents an incremental cost-effectiveness ratio of \$995 per community-based death. However, compared to the non-end-of-life home care cohort (\$31,495, 95% CI \$30,550–\$32,440), end-of-life home care demonstrated cost-savings by \$6,737, on average.

Conclusion: The estimated incremental cost-effectiveness ratio of \$995 suggests that increased investment in end-of-life home care has the potential to improve end-of-life care for community-dwelling older adults. Furthermore, end-of-life home care was cost-saving compared to non-end-of-life home care. More studies are needed in this field to better understand the cost-effectiveness of home care from the public system perspective. Our research provides a benchmark for future studies to further explore the real-world cost-effectiveness of home-based palliative care.

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Title: You are what you sleep: A path analysis of mediating effects of health behaviours, functional limitations and morbidity on the association between sleep quality and self-perceived health

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The connection between self-reported health in relation to health behaviours has been studied extensively in the fields of biology, psychology and public health. However, few have examined the prevalence of poor sleep quality and its impact on health outcomes in older adults. This study examines the mediating effects of health behaviours, functional limitations and morbidity on the association between sleep quality and self-perceived health in older adults.

Approach: A cross-sectional study using the Canadian Community Health Survey (CCHS) from two Canadian provinces where sleep quality was captured by the survey. We included respondents 50 years and older residing in Manitoba and Prince Edward Island captured by the 2013/2014 cycle of the CCHS (n=333,965). The primary outcome was self-perceived health, which is measured on a 5-point Likert scale with values ranging from '1', for excellent self-perceived health, to '5' (for poor self-perceived health). We used path analysis to examine the mediating effects of health behaviours, functional limitations and morbidity on the association between sleep quality and self-perceived health.

Results: The majority of the population rated themselves as having high self-perceived health (87.5%). Of that group 56.1% reported having good quality sleep. In contrast, 39.9% of individuals with low self-perceived health reported good quality sleep. Initial probit regression showed a significant, positive association between high self-perceived and good quality sleep ($\beta=0.393$, 95% CI: 0.202-0.585, $p<0.001$). Other factors that were associated with poor self-rated health include being a current smoker, physical inactivity, having functional limitations, being obese, and having at least one chronic condition. Subsequent path modelling showed the effects of sleep quality on self-perceived health was partially mediated by physical activity and smoking. Alcohol consumption was not found to have any significant mediating effects on sleep quality and self-perceived health.

Conclusion: Sleep quality and health behaviours have a greater impact on self-perceived health when viewed independently and interpedently. A better understanding of the complex relationship between these health variables could lead to better engagement to improve health and wellbeing in an aging population.

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Author: Alyssa Indar

Title: A Pan-Canadian Perspective on Incident Management and Reporting

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Robust incident management systems are necessary to report patient safety incidents. Canadian organizations need relevant information, strategies and tools to support incident management systems. The use of a pan-Canadian approach to understand various stakeholder perspectives revealed the types of education, tools and resources most needed. This research study describes a comprehensive needs assessment undertaken to develop strategies to build system capacity for preventing, recognizing, responding, learning and improving patient safety incidents.

Approach: A mixed methods approach was used to describe existing strategies for managing incidents and identifying gaps in incident management. The qualitative component consisted of six focus group sessions. Participants were recruited from the Canadian Patient Safety Institute (CPSI) database. Perspectives from clinicians, managers, executives, governors, patients and families were represented. The data were thematically analyzed. The findings informed the development of a national survey, subsequently completed by 155 participants representing different Canadian provinces and settings. An analysis of variance (one-way ANOVA) followed by Tukey Post Hoc test were used to compare the results of the survey.

Results: From the qualitative component, the findings were organized into three main groups: (1) resources, tools and education (2) management support after incident, and (3) safety as a leadership priority. Across groups, key themes emphasized the importance of communication, the tension between variation and standardization, and the shift to redefining harm. From the quantitative component, there appeared to be differences in the score means between the role groups on most items and factors (management support after incident, roles/tools and education and support, and safety as a leadership priority). The clinicians and patient or family typically scored lower than the managers or directors and executives or governors. The differences between the sector groups was not significant.

Conclusion: The results from this study represent a pan-Canadian perspective and describe current trends and needs in incident management systems. This work emphasizes the importance of promoting stakeholder involvement across sectors and provinces in order to improve patient safety through enhanced awareness, education and prevention.

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Title: Using Machine Learning Techniques to Predict End-of-Life Among Older Adults

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Inadequate end-of-life care, including a lack of, or late initiated palliative care can lead to poor quality of life and high costs in people's final months of life. Improving understanding of the trajectory of dying allows end-of-life care needs to be more easily identified. We use machine learning to develop mortality risk prediction models and compare their predictive ability against traditional epidemiological methods. Machine learning models can identify predictor interactions while training without prespecifying them.

Approach: We aim to identify predictors that are indicative of mortality within 6 months among older adults in Ontario receiving home care services, and create an algorithm used in a mortality risk prediction tool.

Models were created using data from RAI-HC assessments collected between 2007 and 2013. Multiple models are compared: a previously created proportional hazards regression model, a logistic regression model, and an artificial neural network model. All models were developed using the same set of predictors. Concordance (c-statistic) was used as the primary performance metric for selecting models, although other measures such as calibration are also considered.

Results: The original proportional hazards model created had a c-statistic of 0.77 and 0.75 in the derivation and validation cohorts, respectively. The logistic regression model improved on this slightly, with c-statistics of 0.78 and 0.77. A comparison of observed and predicted mortality also shows improved performance in favour of the logistic regression model.

Neural network (NN) models did not perform well compared to the above models. Several neural network models were trained using different parameters, but all had common shortcomings. 6-month survival was highly overpredicted by the NNs, with some models even only predicting survival. The best performing NN had a c-statistic of 0.64 in its derivation cohort. Machine learning approaches less affected by imbalanced data, such as tree-based models, are considered for future models.

Conclusion: A better understanding of factors risk factors will help in identifying individuals at risk of dying in the immediate future, potentially care as their health status changes. Efforts are ongoing to improve the existing models and to investigate other methods that produce better performing models

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Author: Nicolas Iragorri

Title: The cost of failed primary cancer treatment attributed to continued smoking in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Smoking cessation after a cancer diagnosis is expected to improve health outcomes and reduce costs associated to primary treatment failures attributed to continued smoking.

Approach: We developed a decision model for the Canadian context that followed all annual incident cancer cases based on smoking prevalence and treatment efficacy (cure versus failure). This model estimated the proportion of patients that failed primary cancer treatment due to continued smoking (attributable failures) and their associated cost. A sub-analysis was conducted to determine the total cost of attributable failures across the main four cancer types in Canada (lung, breast, colorectal, and prostate). Key model parameters, such as smoking prevalence rates and treatment costs were varied through sensitivity analyses.

Results: Attributable failures were greater when smoking prevalence and the odds of failing primary treatment among smokers increased. The annual cost associated with the attributable failures was estimated at \$198M. This cost was 49% greater when we assumed that the second-line therapy cost was the same as the terminal-phase cancer cost (~\$60,000/year). Marginal reductions of smoking prevalence had a greater effect over attributable failures for prevalence levels above 10%. Lung cancer represented the highest economic burden (\$52M) out of the four most common cancer types.

Conclusion: The costs associated with failed primary treatment due to continued smoking among cancer patients in Canada is considerable. At-risk populations with high smoking prevalence levels and treatment costs are expected to benefit the most from smoking cessation programs.

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Author: Jennifer Isenor

Title: Alignment of Primary Care Deprescribing Strategies to the Nova Scotia Context Using Components of the Behaviour Change Wheel

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Polypharmacy and inappropriate medication use are an increasing concern with the aging population. Deprescribing may reduce medication-related harm and improve quality of life. The Behaviour Change Wheel (BCW) is a framework for practice change that may assist in informing the development and implementation of deprescribing strategies. The objective was to identify components of published primary care deprescribing strategies that link to local qualitative data to inform development of deprescribing initiatives in Nova Scotia.

Approach: Two background studies were completed. A scoping review identified studies that evaluated primary care deprescribing strategies. Strategies were mapped to the BCW Intervention Functions (intervention purpose) and the Behaviour Change Techniques (BCTs) (intervention delivery method). A qualitative study of interviews and focus groups evaluated knowledge, attitudes, beliefs and behaviours toward deprescribing of local primary care physicians, nurse practitioners and pharmacists. Transcripts were coded using the Theoretical Domains Framework (TDF) and matched to the BCW. BCW Intervention Functions, BCTs and deprescribing strategies from the scoping review that linked to the TDF domains in the qualitative study were identified and described.

Results: The scoping review included 44 studies with a variety of study designs. All intervention functions of the BCW were utilized except Restriction. When mapped to the BCW, the two most predominate BCTs identified were Prompts/Cues and Social Support (practical), which are categorized under Environmental Context and Resources and Social influences, respectively, when mapped to the TDF. The qualitative study identified six main TDF themes by frequency of codes and content of responses: 1) Social Influences; 2) Environmental Context and Resources; 3) Memory, Attention and Decision Processes; 4) Social/Professional Role and Identity; 5) Intentions and 6) Beliefs about Consequences. Environmental Context and Resources and Social Influences were the most commonly identified domains in the scoping review (through BCT mapping) and in the qualitative study.

Conclusion: By aligning the views of local healthcare providers with the published literature, results of this study indicate that key deprescribing initiatives for future research in primary care in Nova Scotia should involve components that address Environmental Context and Resources and Social Influences.

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Author: Liisa Jaakkimainen

Title: The secondary use of primary care Electronic Medical Record (EMR) data to compare the risk of developing diabetes amongst new statin users

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Secondary use of family physician (FP) electronic medical (EMR) data can provide information which enhances existing health administrative data for use in health services research. Complementary FP EMR data includes clinical measures of blood pressure and body mass index (BMI), and risk factors for disease such as smoking and alcohol use. This study used FP EMR data to replicate administrative-based studies which compare the risk of newly diagnosed diabetes amongst adults newly prescribed statins.

Approach: We conducted a matched cohort study of adults in Ontario, Canada, ≥ 40 years of age without a history of diabetes or statin prescription prior to study enrollment. New statin users, defined as FP patients with a first ever statin prescription between January 1, 1998 and March 31, 2014, were matched on sex and age to one to five controls, also with no statin prescription during study follow-up. The endpoint of follow-up was the earliest date of: diabetes diagnosis, death, emigration from Ontario, loss of health enrollment, 36 months after index date/start of statin treatment and March 31, 2016.

Results: The FP EMR study cohort consisted of 8823 new statin users and 33,732 controls. Compared with non-statin users, statin users were older (mean years \pm SD: 62.1 ± 11.1 versus 59.8 ± 11.5 for users and non-users, respectively), and had a higher proportion of males (53.4% versus 48.8%), patients with body mass index (BMI) ≥ 30 kg/m² (18.1% versus 10.8%) and patients with co-morbidities. Overall, 6.5% of statin users developed diabetes compared with 2.7% of non-users (unadjusted hazard ratio [95% CI]: 2.44 [2.20-2.71]). After adjusting for index year, systolic and diastolic blood pressure, smoking, BMI, history of coronary artery disease, atrial fibrillation and chronic kidney disease, statin users remained at greater risk of newly diagnosed diabetes compared to non-statin users (hazard ratio [95%CI]: 1.74 [1.46-2.07]).

Conclusion: The effect size of new statin use in the development of diabetes was higher when controlling for clinical measures compared to administrative-based studies. The secondary use of FP EMR data for research provides data which can further adjust for confounding and effect modification, adding insights from a primary care perspective.

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Author: Donica Janzen

Title: Formulary listing of a novel long-acting injectable antipsychotic: interrupted time series analysis of long-acting injectable antipsychotics 1996-2015

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Publicly funded drug programs use formularies to promote judicious use of cost-effective medications. A novel long-acting injectable (LAI) formulation of risperidone was marketed in 2004 and listed on Manitoba's Provincial Drug Program formulary in 2009. This study aims to 1) assess the impact of risperidone-LAI listing on the use of previously listed, lower cost LAI antipsychotics and 2) determine whether prescribing was consistent with criteria for use outlined in the formulary.

Approach: We used the administrative databases of the Manitoba Centre for Health Policy (MCHP) to identify LAI antipsychotic prescriptions dispensed in community pharmacies in Manitoba between 1996 and 2015. Interrupted time series analysis was used to model the number of LAI antipsychotic users 1) at baseline, before risperidone LAI market entry, 2) after market entry but before formulary listing, and 3) after formulary listing. We assessed antipsychotic adherence prior to initiation of risperidone-LAI using medication possession ratios (MPR) and determined the proportion of users hospitalized for schizophrenia in the 2 years preceding incident risperidone-LAI dispensation.

Results: Use of LAI antipsychotics declined an estimated 24.0 users per fiscal year in the baseline period before risperidone-LAI market entry ($p < 0.01$). After risperidone-LAI market entry, risperidone-LAI use grew an estimated 23.4 users per fiscal year ($p < 0.01$) and the number of first-generation LAI antipsychotic users stabilized at an estimated 474 users per fiscal year. After formulary listing, the estimated increase in risperidone-LAI use nearly doubled to 41.6 users per fiscal year ($p < 0.01$), while first-generation LAI antipsychotic use declined an estimated 7.8 users per fiscal year ($p < 0.01$). Of new risperidone-LAI users, 52.9% were non-adherent to their previous oral antipsychotic regimen, defined as having an MPR < 0.8 . Only 39.8% of new risperidone-LAI users were hospitalized for schizophrenia in the preceding 2 years.

Conclusion: Formulary listing led to significant growth in risperidone-LAI use and concomitant decline in first-generation LAI antipsychotic use. More than half of new risperidone-LAI users had a recent history of non-adherence, but a minority had a schizophrenia-related hospitalization in the preceding 2 years.

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ID: 99

Author: Aaron Jones

Title: Primary care effect modification of a transient association between home care nursing and same-day emergency department visits

Type of Abstract: Oral Presentation: Standard

Background and Objectives: A previous case-crossover study found a transient association between home care nursing visits and same-day emergency department (ED) visits. The objective of this study is to examine modifiers of this effect including access to afterhours primary care, primary care enrollment models, and various clinical characteristics of the home care patients.

Approach: We replicated and expanded the previous case-crossover study in a retrospective cohort of home care patients indexed to home care clinical assessments in Ontario from 2014-2016. As previously, days with ED visits after 5 pm were selected as cases and matched with control days from the previous week within the same patient. The association between home care nursing and same-day ED visits was estimated using conditional logistic regression. Effect modification was examined using the interaction term approach. Modifiers included: afterhours primary care utilization, primary care enrollment model, wound care, IV care, and use of a urinary catheter.

Results: A total of 11,545 cases were identified and matched with 53,699 control days. The odds ratio (OR) between home care nursing and a same-day ED visit was 1.27(95% CI: 1.21 – 1.34). This effect was smaller among patients who had utilized more afterhours primary care in the previous year (Interaction OR: 0.94 per afterhours visit, 95% CI: 0.92-0.96) while controlling for overall primary care utilization. The effect was also smaller among patients receiving nursing for wound care (Interaction OR: 0.88, 95% CI: 0.85-0.93). The effect was considerably larger among patients with an indwelling urinary catheter (Interaction OR: 1.51 95% CI: 1.42 – 1.62).

Conclusion: Greater utilization of afterhours primary care was associated with a reduction in the likelihood of same-day ED visits while use of a urinary catheter was associated with a substantial increase. Better access to afterhours care and timely care in the community for catheter-related problems could prevent ED visits.

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Author: Aaron Jones

Title: Measuring within-specialty continuity of care: introducing a scaled bice-boxerman index

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The bice-boxerman index is frequently used to measure continuity of care. While specialist visits are often included in the bice-boxerman calculation along with family medicine, this conflates within and between-specialty fragmentation and results in maximum values less than 1 and a significant negative correlation with specialist utilization. The objective of this study is to define and examine a modified bice-boxerman index that can aggregate within-specialty continuity of care across specialties without a ceiling effect.

Approach: We used a retrospective cohort of home care patients in Ontario from 2014-2016 linked to administrative health utilization records. To demonstrate the relevance of within-specialty continuity, we examined the influence of continuity of internal medicine alongside continuity of family medicine on emergency department (ED) utilization. A scaled bice-boxerman index was defined by dividing the standard bice-boxerman by a patient's theoretical maximum value based on the distribution of visits within specialties in the past year. We compared the performance of the scaled, unscaled, and family medicine continuity measures using restricted cubic splines in a cox model predicting ED utilization.

Results: Our cohort contained 179,888 home care patients with at least three family medicine visits in the previous year. Among patients with at least as many internal medicine visits as family medicine visits, high continuity (≥ 0.75) of internal medicine (HR 0.62, $p < 0.001$) had a more meaningful association with ED utilization than high continuity of family medicine (HR 0.95, $p = 0.33$). With all specialties included, the scaled bice-boxerman index was uncorrelated ($r = -0.07$) with number of specialist visits and had an achievable value of 1 for each patient. The scaled version had better values on model information criteria and global and individual significance tests in the cox model predicting ED visits than either the unscaled version or continuity of family medicine alone.

Conclusion: A bice-boxerman index that is scaled by a patient's theoretical maximum index avoids ceilings less than 1 and negative correlations with specialist utilization and is mathematically equivalent to a weighted average of within-specialty continuities. In populations with heterogeneous specialist utilization, a scaled bice-boxerman index may provide more meaningful results.

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Author: Sydney Jopling

Title: Impact of an interprofessional team-based care program on the health care utilization of patients with complex health and social needs

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Interprofessional team-based care (IPTBC) has been shown to improve quality of care and decrease emergency department visits for patients with complex health and social needs. “Teamcare” is an initiative designed to improve access to IPTBC for complex patients through referral programs operating in a network of 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 utilized health care administrative data from the Institute for Clinical Evaluative Sciences (ICES) linked to data from Community Health Centres (CHCs), which contain a unique program identifier for SPiN participants. The study timeline is from March 31, 2015 to March 31, 2016, with a two year lookback period and a two year follow-up period centered on date of enrolment with the program. A fixed effects model with a modified difference-in-differences approach was estimated to analyze the impact of participation in Teamcare on non-urgent emergency department visits for Teamcare patients compared to a propensity score-matched control group.

Results: The anticipated sample size for the Teamcare patient group is approximately 300 individuals. The literature suggests that team-based care reduces emergency department (ED) visits and is particularly effective in reducing ED visits for patients with mental health issues and/or a high degree of medical complexity. It is therefore anticipated that the rate of non-urgent ED visits will decrease for the Teamcare patient group compared to the control group.

Conclusion: This study examines the impact of Teamcare, an interprofessional team-based primary care program, on unnecessary or avoidable health services utilization, specifically non-urgent emergency department visits. These findings will inform future efforts to improve access to team-based care and improve health system outcomes.

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Author: Mudathira Kadu

Title: Transitions of care in Ontario end-of-life patients: the impact of inpatient palliative care on receipt of post-discharge home care services

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The most common care transition for individuals near the end of life is from home-to-hospital-to-home. Yet, gaps of knowledge exist on the impact of inpatient palliative consultation on continuity of palliative care after discharge. The objective of this study was to evaluate whether receipt of inpatient palliative consultation is associated with increased likelihood of receiving palliative home care and physician visits after discharge.

Approach: This was a retrospective cohort study of decedents in Ontario from April 1, 2014 to March 31, 2017. The index event was the first hospital discharge within 6 months of death. The primary exposure was the receipt of inpatient palliative care. The outcomes of interest were either a palliative home care or palliative physician visit, or acute care readmission, within 21 days of the index hospitalization. Multinomial logistic regression was used to determine the association between exposure and outcomes, adjusting for sociodemographic, clinical, facility-level and prior healthcare utilization factors. Sensitivity analyses varying the timing of the index event were conducted.

Results: Of the patients discharged at the index hospitalization (N=59,008), only 2% (N=1,176) received inpatient palliative consultation. Compared to those that did not receive consultation, they were older (73.2 years \pm SD: 13.9 vs. 70.9 \pm SD:13.4), less likely to have 5+ (of 17) chronic conditions (34.4% vs. 47.5%). Within 21 days of discharge, 19.4% received palliative home care; 8.1% of these patients had received inpatient palliative consultation. In the regression analysis, after adjusting for: clinical, sociodemographic, prior utilization and facility factors, those that received inpatient palliative consultation had 12.4 (95%CI: 10.4-14.8) greater odds of receiving palliative home care than those that did not. The odds of readmission within 21 days of discharge was 0.99 (95%CI: 0.75,1.31) and not significant at the $p < 0.05$ level.

Conclusion: Receiving inpatient palliative consultation is strongly associated with receipt of timely community-based palliative care at the end of life. Improving access to inpatient palliative care could help reduce gaps in care transitions back into the home for end-of-life patients who are hospitalized.

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Author: Sravya Kakumanu

Title: Cost-effectiveness and efficacy of recruitment strategies used in a large pragmatic clinical trial targeting low-income seniors: A comparative descriptive analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Clinical trials often fail to reach recruitment goals within the allotted time and budget, undermining the value of these resource intensive studies. Despite the widespread acknowledgment of the issue, recruitment continues to be challenging. Our objective was to evaluate the effectiveness and costs associated with various recruitment strategies used in a pragmatic clinical trial testing the efficacy of free preventive medications and personalized education to reduce the risk of cardiovascular events in low income seniors.

Approach: A total of 14 unique strategies were used in the Assessing outcomes of enhanced Chronic disease Care through patient Education and a value-baSed formulary Study (ACCESS). These were grouped into five overarching strategies: 'health care providers', 'mail', 'media', 'seniors outreach', and 'word of mouth'. For each strategy, we assessed the number of participants screened and enrolled, as well as the demographic characteristics of those participants, and the costs associated with the strategy. Further investigation of the 'media' strategies was undertaken to determine duration of sustained interest after each media release.

Results: Approximately 20% of the ACCESS operational budget was spent on recruiting the first 4013 participants (\$349,800 CAD), giving an average cost per enrolled participant of \$87 CAD. Most participants were recruited by 'pharmacies' (n=1217, 30%), giving a moderate cost per enrolled of \$124. 'Paid media' strategies, including radio advertisements, recruited 85 participants, and had the highest cost per enrolled (\$806), whereas 'word of mouth' (476 participants, \$5) and 'unpaid media' (e.g community newsletters) (265 participants, \$4) had the lowest. Each strategy was found to reach different target subgroups: participants enrolled from 'senior's outreach' had the lowest baseline quality of life and income, while participants from the 'coronary angiogram registry' and 'word of mouth' were the oldest and had the lowest educational attainment, respectively.

Conclusion: Overall, enrolment seemed more likely if participants were personally contacted, making 'health care providers' and 'word of mouth' especially successful. 'Media' strategies were less effective, short lasting, and costlier. No strategy was singularly effective in recruiting our targeted groups; emphasizing the importance of using diverse strategies to reach recruitment goals.

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Author: Kai-Erh Kao

Title: The Health and Financial Impacts of a Sugary Drink Tax across Different Income Groups in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Overconsumption of sugar leads to serious health issues such as obesity, cardiovascular diseases, and diabetes, and also increases healthcare costs. Sugary drink taxes have been implemented to curb sugar intake in several countries. A previous Canadian model by Jones et al. also showed that it could improve health. However, there is a concern that sugary drink taxes are regressive. This project assessed the impacts of a sugary drink tax by different income groups in Canada.

Approach: The existing multi-state life table model by Jones was extended to consider impacts on different income groups. The model compared a 20% sugary drink tax scenario with “business as usual” scenario. The changes in beverage consumption and BMI were modelled. These changes further affected relative risks, incidence and prevalence of 19 obesity-related diseases and, in turn, healthcare costs. Data on cross- and own-price elasticities, mean BMI, and sugary drink consumption were stratified by income quintile.

Results: The consumption of sugary drinks was estimated to be reduced by 14.69% to 15.41%, with the smallest change in the middle-income quintile and the largest change in the lowest income quintile. BMI was estimated to be reduced by 0.21 to 0.33 units, with the greatest reductions predicted in the lowest income quintile and in males. The total disability-adjusted life years (DALYs) averted over 25 years increased with income, from 49,637 for the lowest income quintile to 59,103 for the highest income quintile. Tax revenue in the first year was estimated to vary by income quintile: \$209m for the lowest income quintile, \$227m for the middle-income quintile, and \$204m for the highest income quintile.

Conclusion: The model predicts that high-income Canadians would gain the most health from a sugary drink tax, while the lowest-income Canadians would pay the largest proportion of their incomes in tax. If this regressivity is a concern, policymakers may consider investing the revenue in policies that reduce health and/or income inequities.

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Author: Alan Katz

Title: Do First Nations fill more prescriptions for Opioids than other Manitobans?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Little is known about the use of opioids in First Nations (FN) beyond the understanding that the morbidity and mortality from the opioid epidemic has disproportionately affected FN peoples. An understanding of prescribing patterns of opioids is a crucial step to understanding the use of opioids by FN. The objectives of this study are to compare the dispensation of opioids between FN and all other Manitobans.

Approach: We performed a cross-sectional observational study using data from the Population Research Data Repository housed at the Manitoba Centre for Health Policy. We linked the federal Indian Status Registry to the Repository data to assign FN status, with permission of a First Nations REB. We used a generalized linear modeling approach (negative binomial), incorporating interaction terms. Model parameters included age, sex, and area of residence. Because we were modeling rates not events, we used the logarithm of the population as an offset in the model. We compared FN living on reserve, off reserve and all other Manitobans by region.

Results: Our analyses assigned FN status to 144,965 Manitobans, which represents 11% of the Manitoba population. Of these 67% live on reserve. Fifty six percent of those living off reserve (29,299) live in Winnipeg. The rates for those receiving at least one dispensation of an opioid were higher for FN (25%) than those for all other Manitobans (10%) as were those receiving 3 or more dispensations (12% vs 3%). There were no statistically different rates between on and off reserve FN for those who received one opioid dispensation, however for those receiving 3 or more dispensations the rates were higher ($p=0.01$) for those living on reserve in 3 of the 5 health regions.

Conclusion: Overall, more FN members receive more dispensations per person for opioids than all other Manitobans. Despite a lack of primary care services on many FN reserves, FN living on reserve in 3 regions receive statistically more dispensations for opioids than FN living off reserve in the same regions.

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ID: 462

Author: Alan Katz

Title: Ambulatory sensitive conditions (ACSC) in Manitoba First Nations

Type of Abstract: Oral Presentation: Standard

Background and Objectives: To explore the validity of ACSC hospital admission rates as a measure of primary care (PC) effectiveness in the context of on-reserve First Nations health.

Approach: Retrospective longitudinal observational study of all 63 Manitoba First Nations (FN) between 1984 and 2015. We calculated annual hospital admission rates for different categories of ACSC (acute, chronic, vaccine preventable and mental health conditions) for different models of on-reserve PC service delivery. Differences in funding and jurisdictional control determine the models of care. We controlled for age, sex, socioeconomic status and premature mortality rates in the Generalized Estimating Equation models, which used a rolling 5-year aggregate admission rate to compensate for low total admission rates. The inclusion of mental health diagnoses in the definition of ACSC is a unique innovation.

Results: The rates of ACSC hospitalization decreased over the study period for all models of care by an average of 3.3%. The annual adjusted rates dropped from 84.42 (95%CL 60.26-118.26) to 36.24 (95% CL 35.90 - 36.58). The findings for chronic, acute and vaccine preventable ACSC follow a similar pattern with average decrease of 3.4%, 4.4% and 6.2% respectively. In contrast, the rates of admission for mental health ACSC conditions increased 0.1% on average with a range of 1.0 to 5.9% in the models of care provided in FN communities. The rates varied across PC service delivery models with the nursing station rates increasing dramatically from 9.36 (95%CL 6.62-13.23) to 28.39 (95%CL 18.30-44.03).

Conclusion: Our results provide insight into the lack of homogeneity of ACSC as a single construct in Manitoba FN. These findings should be confirmed in other populations however in the interim we recommend caution in the use of ACSC as a composite indicator of PC effectiveness.

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ID: 233

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Title: Exploring value propositions of virtual primary care for patients and providers

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The Ontario Telemedicine Network is working with local health integration networks to implement virtual primary care. Previous experience shows virtual primary care can be reasonably used to manage routine conditions and reduce health system costs. Yet integrating virtual visits in primary care remains challenging. The objective of this study is to explore how virtual visits can create value for patients and clinicians to improve uptake in Ontario.

Approach: Four LHINs across Ontario, including 138 physicians, have implemented a customized virtual visits platform. The technology enables clinicians to respond to patients' clinical requests using either asynchronous secure messaging or an audio/video visit. We conducted semi-structured interviews with providers and patients to understand the perceived value generated by virtual visits for both groups. Themes of value propositions for virtual visits for both providers and patients were extracted.

Results: Patient value propositions:

- 1) Convenience: Easier access to clinician was of priority. Rapid response is not needed.
- 2) Access: Improve continuity and access to care for patients who have moved but still have the same PCP and homebound or low-mobility patients
- 3) Urgent issues: Patients identified an interest in accessing a platform that would provide rapid responses for urgent issues, particularly after hours (not enabled by current model).

Provider value propositions:

- 1) Efficiency: Increase the number of patients PCPs can see per day, while not overwhelming their workflow.
- 2) Revenue: Increase provider revenue by increasing efficiency by enabling them to maximize their care bonuses, or paying them for previously unpaid (e.g. phone calls).
- 3) Care quality: Enable clinicians to improve the quality of care they can deliver to their patients.

Conclusion: When implementing virtual visits, it is important to align implementation design with patient and provider value propositions to encourage maximum adoption. The value propositions and potential use cases outlined here can guide implementation of virtual care within primary care.

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Author: Kyle Kemp

Title: Communication with Healthcare Providers: A Comparison of Children's and Adult Hospitals using Validated Surveys

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient experience is one of the three elements of the Triple Aim Framework for high-performing health systems. Communication with providers is a key driver of patient experience, and has been shown to be associated with patient outcomes. To date, no studies have compared the experience of patients in children's and adult hospitals. Our objective was to compare survey responses of communication with providers, from children's and adult hospitals across two metropolitan areas in Alberta.

Approach: Telephone surveys were conducted using two validated instruments (Canadian Inpatient Experiences Survey – Inpatient Care [adults], Child Hospital Consumer Assessment of Healthcare Providers and Systems [parents of children]). Responses to seven questions pertaining to overall care and communication with nurses/doctors were examined. Responses were reported as percent in “top box”, as represented by the most positive answer choice (“9 or 10” out of 10 for overall care, “always” for communication questions). Logistic regression was used to calculate odds of reporting a “top box” response by hospital type, while controlling for respondent age, education level, health status, and length of stay.

Results: From October 2015 to March 2018, 43,512 surveys (40,354 adult, 3,158 child) were obtained from 9 adult and 2 children's hospitals. For the overall rating of care, 76.1% and 59.2% of responses were rated as “top box” for children's and adult hospitals, respectively. A higher overall rating of care was associated with older respondent age, lower level of education, better self/parent-reported health, and shorter length of stay. When compared with adult hospitals, higher raw percentages of “top box” responses were observed at children's hospitals for all communication questions. After adjusting for the demographic and clinical factors, respondents from children's hospitals had significantly higher odds of reporting a “top box” response on all questions (aORs ranging from 1.79 [doctor listening] to 3.12 [overall rating of care]).

Conclusion: Our results showed that overall care and elements of communication with nurses and doctors were rated higher in children's hospitals. Future qualitative studies may help to reveal causal factors associated with our findings. The potential relationships between communication with providers and patient outcomes may also be explored in our cohorts.

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Author: Kyle Kemp

Title: A Machine Learning Approach to Predict Risk of 30-Day Readmission: Insights from Patient Experience Surveys completed by Albertans Living with Chronic Conditions

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Following hospital discharge, approximately one in five Canadians living with chronic conditions are readmitted within 30 days. This places a tremendous burden upon patients, families/caregivers, and the healthcare system. Patient-reported experience, and its potential link with unplanned readmissions has not been explored in a comprehensive fashion. Our objective was to predict the risk of 30-day readmission from responses to all questions from a patient experience survey using a machine learning approach.

Approach: Telephone surveys were conducted using a validated instrument (Canadian Inpatient Experiences Survey – Inpatient Care) within 6 weeks of hospital discharge. Surveys contained 56 questions examining multiple facets of care. These included communication with nurses/doctors, pain control, care coordination, medications, discharge planning, and the physical hospital environment. Surveys were linked with inpatient records to include cases where the most responsible diagnosis was one of seven chronic conditions (chronic obstructive pulmonary disease, congestive heart failure, ischemic heart disease/angina, diabetes, hypertension, asthma, chronic renal failure). Machine learning algorithms examined the relationships between all-cause 30-day unplanned readmission, demographics, clinical factors, and survey questions.

Results: From April 2014 to March 2018, 7,589 surveys were completed by patients with a most responsible diagnosis (index hospitalization) among the conditions studied. Respondents had an average age of 67.3 ± 13.7 years, and length of stay of 7.7 ± 10.4 days. 839 Patients (11.1%) were readmitted at least once within 30 days (924 readmissions). A random forest model revealed that four of the top five predictors of readmission were patient experience questions (timely call button response, organized admission to hospital, receiving enough information about admission, receiving timely help getting to the bathroom/using a bedpan). Alone, patient experience data performed better than demographic/clinical variables alone at predicting readmission (area under the curve [AUC] 0.634 vs. 0.574). The combination of patient experience and demographic/clinical data had an AUC 0.654.

Conclusion: This project suggests that elements of patient-reported hospital experience should be considered when assessing risk of unplanned readmission. Improvements in these areas may prove fruitful in reducing unplanned readmissions among Canadians living with chronic conditions. The study provides a novel example of secondary use of surveys linked with administrative records.

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Author: Tetyana Kendzerska

Title: Validation of provincial health administrative case definitions to identify patients with obstructive sleep apnea

Type of Abstract: Oral Presentation: Standard

Background and Objectives: While consistent evidence supports an association between obstructive sleep apnea (OSA) and all-cause and cardiovascular mortality, the evidence on impact of OSA on other health outcomes is limited. Health administrative data are a high-quality resource to further examine the relationships between OSA and health outcomes; however, the diagnosis of OSA is often not specifically coded.

We aimed to derive and validate case-ascertainment algorithms for patients diagnosed with OSA using population-based health administrative data.

Approach: We conducted a retrospective study linking clinical data from diagnostic sleep studies to health administrative data. The Ontario Health Insurance Plan (OHIP) and Discharge Abstract Databases were used to identify characteristics of patients and their physician's, health conditions, surgical procedures, repeated sleep studies and the use of assistive respiratory devices from three years before to one year after their sleep study. Presence of OSA was defined using clinical data as the reference standard where the apnea hypopnea index (AHI)>15. Multivariable stepwise logistic regressions and expert opinion were used for variable reduction. We used classification regression tree for modelling.

Results: 5,099 of 5,155 (99%) who underwent a diagnostic sleep study from 2015 to 2017 in a large academic center were successfully linked to health administrative data (mean age of 50 years and 54% males). 1,664 patients (33%) had OSA (AHI>15). The parsimonious model (consisting of an outpatient visit with OHIP code for OSA from a physician registered with the assistive device program, patient sex and age, and prevalent hypertension) had a sensitivity, specificity, area under the curve (AUC), positive likelihood ratio (+LR) and negative LR (-LR) of 64%, 79%, 0.76, 3.0 and 0.5, respectively. The complex model with all 23 factors had a sensitivity, specificity, AUC, + LR and -LR of 68%, 86%, 0.88, 4.8 and 0.4, respectively.

Conclusion: Case definitions of OSA are reasonable at identifying people with OSA at the population level. Future study will be required to validate these findings across our provincial health system and in other jurisdictions. These findings will support population-based studies of treatment, outcomes, epidemiology and health care utilization amongst individuals with OSA to guide improvements in quality of care, and to inform therapeutic decision-making and treatment discussions for OSA patients.

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Author: Tetyana Kendzerska

Title: Opioid Use in Adults Referred for Sleep Disorder Assessment and Associated Long-Term Consequences: A Population-Based Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Opioid use is associated with impaired breathing in sleep. Despite this, there are no population studies investigating the long-term consequences of this relationship. We conducted a population-based cohort study using provincial health administrative data (i) to investigate the prevalence of opioid use among adults who underwent an initial diagnostic sleep study, and (ii) to assess the relationship between opioid use, positive airway pressure (PAP) treatment, and long-term outcomes in this population.

Approach: We included all adults who underwent an initial diagnostic sleep study in Ontario between 2013 and 2016, and followed them until March 2017, excluding individuals who received palliative or long-term care prior to the sleep study. Our exposure, opioid use at the date of the sleep study, was identified from the Narcotics Monitoring System. PAP therapy initiation was defined through the Ontario Assistive Devices Program database. Our composite outcome was time from sleep study to the first of emergency department visit, hospital admission, or all-cause death. We used multivariable Cox regression models to address our objectives.

Results: A total of 267,461 adults (median age 51 years; 57% men) were included in our analyses, of whom, 12,205 (5%) were on opioids at the time of the sleep study. Over a median follow-up of 24.5 months, 103,398 (39%) initiated PAP and 140,080 (52%) developed a composite outcome. Controlling for demographics, comorbidities, primary care exposure and use of other controlled substances at baseline, opioid use was significantly associated with an increase hazard of the composite outcome (HR=1.21, 95%CI: 1.19-1.24), but not with PAP prescription (HR=1.03, 95%CI: 0.99-1.06). The results were driven by all-cause death: HR=1.52, CI: 95%1.39-1.66.

Conclusion: In a large population-based study, we found that among adults referred for a sleep disorder assessment, opioid exposure was associated with a 21% increased hazard of hospital visits or death from any cause. These findings suggest the need for better management in these individuals and can be used to identify those at the most risk, ultimately improving clinical outcomes.

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Author: Nagina Khan

Title: Pay for Performance Scheme in Primary Care: Lessons from the quality and outcomes framework in the UK

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The Conference Board of Canada report, Family Doctor Incentives: Getting Closer to the Sweet Spot recommends that policy makers aim for the right blend of incentives, guided by principles that consider health care goals, global experience and human motivation. Therefore it is important to understand the impact of funding and contractual mechanisms on the provision of primary care and how different payment models drive different types of behaviour.

Approach: Meta-synthesis assists knowledge synthesis through a process of re-conceptualisation of themes across a number of published qualitative studies (Noblit & Hare 1988). A meta-synthesis draws on the subjective and interpretive nature of existing qualitative research to construct more complete and plausible understandings of reality than what is currently available from the existing literature (Allen et al. 2016). Although multiple studies are used, the sample is purposive and therefore not entirely exhaustive.

Our search aimed to identify published peer-reviewed empirical research relating to pay-for-performance schemes in primary care in the UK, focusing particularly on QOF.

Results: The QOF was introduced in the UK as a mechanism to motivate GPs to achieve a change in aspects of general practice delivery and performance. Few studies have focused on the broader impacts of the QOF on the organisation and provision of care. The impact of QOF is considerably broader than the clinical domains.

We identified 6 broad themes:

- Loss of autonomy & uncertainty;
- Incentivised conformity
- Holism and continuity
- Structural & Organizational changes
- Control and ownership
- 'Grey' ambiguous nature of work in primary care

While these are associated with the ongoing impact of QOF, they may have more long lasting significance for the future workings of general practice.

Conclusion: Quality improvement initiatives should integrate the personal and professional values that clinicians find vital into their processes, as clinicians are driven by their views, beliefs, and experiences, and not just by hierarchy and the externally imposed constructs

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Author: Masud Khawaja

Title: Exploring Effective Medical Interviewing using Appreciative Inquiry Approach

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Medical interview is considered the most powerful and versatile instrument available to the physician. It is no wonder then that doctors are able to reach a final diagnosis in about 76% of the patients on the basis of an effective medical interview alone. However healthcare practitioners are apprehensive that diagnostic tests are beginning to create a wedge in the doctor-patient relationship. This study explores the clinicians' experiences of an effective patient interview process.

Approach: This is the first known empirical study which uses Appreciative Inquiry (AI) approach to get to the core of an effective medical interview. AI is a strength based technique which instead of taking a deficit based approach enquires into the stakeholders' narrative about what is already life-giving when they are at their best. For this study, Appreciative Inquiry interviews were conducted with six clinical faculty members of two teaching hospitals. Thematic analysis of the interview transcripts was carried out. Coding was done and data was categorized. Aggregated common information gave insight into clinicians' perception of effective medical interviewing.

Results: Results of this study demonstrate that the most effective patient interviews not only lead to early final diagnosis, but also help develop trust. Once rapport is established between the physician and the patient, it results in better treatment compliance and decreased morbidity. Effective patient interviews also help the physicians gain insight into any lack of available family/social support. Since such a situation is especially detrimental to the elderly, an informed physician is able to connect them to relevant social services. The most significant recurring theme that emerged from this study was the need for physicians to be motivational during the medical interview process. The results showed that motivational interviewing strategies used by the physicians were successful in enhancing treatment adherence.

Conclusion: Healthcare professionals lament the recent decreased emphasis in medical school curricula on history-taking skills. This AI study clearly reveals that for clinicians, medical interviewing remains the cornerstone of a successful therapeutic relationship. Furthermore, we should also explore the possibility of teaching motivational interviewing techniques to our medical students.

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Author: Claire Kim

Title: Best approaches for identifying, incorporating and reporting patient preferences in clinical guidelines

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Guidelines, which provide treatment recommendations based on the most current research evidence, are globally underused, leading to suboptimal patient outcomes. Research shows that guidelines that address patient preferences are more likely to be used. However, we do not know which methods most efficiently and fully capture patient preferences in guidelines to support patient-clinician discussions about preferences, treatment decision-making and guideline use. Improving the development of patient-relevant guidelines is widely advocated for.

Approach: Using a basic descriptive qualitative approach, we are in the process of interviewing 45 developers (organizational representatives, patients/clinicians involved in development) about the merits (infrastructure, costs, challenges, benefits, impacts) of different approaches on their processes and products. Additionally, a scoping review is also in progress. The accumulated knowledge on the most feasible and impactful ways to address patient preferences in guidelines will be shared. Findings will be used to update the G-I-N PUBLIC Toolkit, the most comprehensive guide for addressing patient preferences in guidelines, and shared at a national meeting of Canadian developers, and internationally through relevant conferences and manuscripts.

Results: To date, 44 developer interviews have been completed. Transcripts are being analyzed and annotated prospectively to extract data into tables of themes and quotes. For the scoping review, an updated search of the literature was conducted on January 3rd, 2019 and screening is currently being completed. This research will identify the best approaches for generating preference-oriented guidelines in a way that is cost-efficient for guideline developers and health systems. Findings will help national and international developers to optimize processes and infrastructure for addressing preferences in guidelines. This may lead to increased use of guidelines by patients and clinicians and, ultimately, improve person-centred health care delivery and health nationally and internationally.

Conclusion: Improving the development of patient-relevant guidelines is widely advocated; yet, little guidance exists on approaches. This research will synthesize published evidence on approaches for identifying, incorporating and reporting patient preferences in guidelines (scoping review) and explore best practices for doing so among national and international guideline developers (qualitative interviews).

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Author: Caroline King

Title: Measuring the Impact of Primary Care Enrolment Policies on Patient-Physician Attachment in Quebec, 2000-2016

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patients' relationships with, and attachment to, primary care providers can influence patient experience, continuity of care and health outcomes. Enrolment policies that formally link patients to providers are intended to improve patient-physician relationships. We assess the impact of Quebec's enrolment policies on patient-physician attachment using health administrative databases.

Approach: Enrolment is a policy-driven, formalized commitment meant to encourage a stable, productive relationship between a patient and a physician and foster a sense of shared responsibility. Therefore, patient-physician attachment should increase trust and communication resulting in greater continuity of care. We measure attachment in administrative health databases using an algorithm based on identifying the usual provider of care and/or the provider of an annual medical exam. We will examine the natural experiments created by the introduction of Quebec's enrolment policies targeting first patients with chronic conditions, and 6 years later, the general population.

Results: We will use a difference-in-differences analysis to estimate the intention-to-treat effect of the Quebec enrolment policies on patient-physician attachment at the population level. British Columbia will serve as a control in our analysis because they did not have a province-wide enrolment program when Quebec's was introduced. We will also assess whether enrolment impacts attachment differentially by patient's health status, sex, age, and socio-economic status. Overall, we expect the enrolment policies to produce modest improvements in attachment for patients. We hypothesize that more vulnerable patients (e.g., patients with a chronic disease, older, lower socio-economic status) will experience greater improvements in attachment to their physicians. Analyses are currently underway and preliminary results are expected in April.

Conclusion: We identified attachment as an outcome that can be captured in administrative data and was prioritized by stakeholders, including patients. Our evaluation of the impacts of enrolment policies on patient-physician attachment is an important first step in understanding whether these policies can improve continuity of care and population health outcomes.

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Title: Extra activities reported by home care personal support workers and implications for additional service needs

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Personal Support Workers (PSWs) are often the closest link between home care clients and the health and social care system. PSWs' frequent visits provide a unique opportunity to identify clients' unmet needs, before gaps lead to crises that trigger hospitalization or institutionalization. However, arranging additional formal supports can be difficult, so many PSWs fill these gaps themselves. This study sought to identify types of care that PSWs provided which fell outside clients' formal care plans.

Approach: This analysis uses data from a year-long prospective cohort study of PSWs employed by a large home care service provider organization in Ontario. Workers from two regions were invited to participate in a series of web-based surveys, which collected information about any care delivered to clients that went beyond the formal care plan.

An emergent coding scheme was developed and applied by two coders to classify the nature of each care activity. Care activities were categorized as social care, health care, added skills, or high-risk activities by two nurses with expertise in PSW care assignment.

Results: Of the 222 PSWs who completed at least one weekly survey, over half reported performing additional care activities. The nature of the additional care activities included medical care, personal care, mobility, nutrition, cleaning, finding/moving objects, home maintenance, instrumental activities outside the home, and providing emotional support. Most activities reported fell within PSWs' accepted scope of practice, even if they were not listed on clients' formal care plans. The majority of activities were social in nature, rather than health care related.

Of concern were participants who reported providing care that requires additional teaching or formal delegation for PSWs to perform. Further, a number of participants reported performing activities outside their scope of practice that may place them in positions of high physical, social and/or legal risk.

Conclusion: Our findings show many PSW working informally to address clients' unmet needs, sometimes in ways that may place themselves and clients at risk. There is an opportunity to leverage PSW observations to update care plans and/or trigger referrals to appropriate services to improve quality and safety in community-based care.

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Title: Evaluating the Effect of Pharmacist-led Medication Review in High-Risk Patients on Downstream Health Services Utilization

Type of Abstract: Oral Presentation: Standard

Background and Objectives: One in nine emergency department visits in Canada result from adverse drug events, the unintended and harmful effects of prescription medication use. In-hospital pharmacist-led medication review has been proposed to improve detection and communication of adverse drug events to reduce the likelihood of re-exposure and decrease unnecessary health services use. This study measured the effect of pharmacist-led medication review relative to the standard of care on trends of downstream health services and prescription drug utilization.

Approach: This study analyzed data of 10,327 high-risk patients from a prospective, multi-center quality improvement program in Vancouver. An adverse drug event clinical decision rule was used to identify patients at high-risk of experiencing an adverse drug event based on the patient's age and medical history. Patients were then allocated to receive either medication review or standard of care. Medication review involved a critical examination of a patient's medications to identify and resolve medication-related problems, and communicate these results to community-based care providers. An interrupted time series analysis was used to compare the differences in outcomes one year following the intervention.

Results: Following medication review there was a level increase of 92.9 total general practitioner visits per 1000 patients (95% CI: -291.5, 477.2; $p=0.64$) relative to the control group in the month following the intervention. The trend of general practitioner visits decreased by 3.5 per 1000 patients per month (95% CI: -70.9, 63.8; $p=0.92$) for 12 months following the intervention relative to the control. Additional health services measures, including emergency department visits, and specialist's visits, as well as prescription drug measures, including prescription drug use and costs, patient medication persistence, and potentially inappropriate prescriptions will also be measured with results expected February 2019. Anticipated results could show a decrease in potentially inappropriate prescriptions for those who received medication review.

Conclusion: This study presented a novel application of interrupted time series to evaluate the effect of pharmacist-led medication review on health services utilization. While there were no statistically significant differences observed in general practitioner visits, further analysis will be done investigating the effect on alternative health services and prescription drug outcomes.

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Author: Natasha Kithulegoda

Title: Screening While You Wait: A technology-based pilot step wedge trial to facilitate actionable exercise prescriptions in primary care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Only 18% of Canadians meet physical activity (PA) guidelines despite known impact on mortality and well-being. Guidelines recommend that clinicians encourage PA during routine visits, but this is rarely implemented. Reported barriers include lack of time, knowledge and training, and lack of success in changing patient behaviour. This pilot study evaluated the feasibility and preliminary effectiveness of a technology-based PA counselling tool in primary care.

Approach: A step wedge trial was conducted at an urban academic family practice. The intervention was sequentially administered in a randomized order, with one of four groups of clinicians switching to the intervention every 6-weeks, until all were exposed. Eligible patients received an e-survey prior to their appointment to assess PA levels. Survey results were used to automatically populate the chart with a tailored prescription and educational resources. PA was reassessed after four months; secondary outcomes include changes in intention and self-efficacy. Process measures included patient satisfaction with PA advice, receiving the toolkit and prescription, and time spent on counselling.

Results: Of the 530 total patients, 82.5% provided baseline and follow-up data. PA (Metabolic Equivalent of Task minutes (MET-minutes) per week) in the intervention group was 10% greater than controls (count ratio, 1.10, 95% CI 0.86-1.41, $p=0.44$). After adjusting for baseline covariates, the effect of the intervention remained non-significant (count ratio, 1.18, 95% CI 0.90-1.53). 61.8% of patients exposed to the intervention completed a process evaluation; of these patients, 49.4% reported receiving at least a prescription, 48.9% reported spending 2-5 minutes discussing PA with their provider, and 86.8% reported being satisfied with their PA discussion.

Conclusion: The introduction of the e-health tool for PA was feasible to implement in a large practice and resulted in a non-statistically significant increase in PA. Process evaluations indicated a need for better training to ensure fidelity of implementation. Future studies require significantly more clusters to achieve significant power.

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Title: Scoping Review of Opioid Prescribing and Pain Management Interventions in Primary Care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Ontario has one of the highest opioid prescribing rates in Canada, and there is a documented need for better primary care management of chronic non-cancer pain (CNCP). Guidelines suggest that primary care providers (PCPs) must be cautious of how and when they prescribe opioids, and there is increasing interest in supporting quality improvement in this area. The purpose of this review is to explore the characteristics of interventions targeting PCPs who prescribe opioids for CNCP.

Approach: We conducted a scoping review of eleven electronic databases. Searches were completed in October 2018 using a comprehensive search strategy developed in collaboration with a Health Sciences librarian from the University of Toronto. Studies were included if they reported primary research that described an intervention targeting PCPs' opioid prescribing behaviour or management of CNCP. Two independent reviewers screened studies and extracted data. Intervention descriptions of included studies were extracted and coded using the EPOC taxonomy for implementation strategies and the Theoretical Domains Framework to understand behavioural targets.

Results: Forty-two of 5520 identified studies met inclusion criteria. 12 of these studies were randomized controlled trials, 11 were observational studies, 19 were qualitative or quantitative program evaluations. Most interventions were short-term without opportunity for follow-up, and offered an educational tool, workshop, or lecture on pain management guidelines. Few interventions used approaches outside of education, such as local opinion leaders, academic detailing, audit and feedback, or monitoring of behaviour over time. Preliminary analyses reveal that the majority of included interventions attempted to address 'Knowledge' as the main determinant of behaviour change (n=39). 'Skills' (n=5), 'Behavioural Regulation' (n=4), and 'Beliefs about consequences' (n=1) were the least common. 'Professional role and identity', 'Goals', and 'Emotion', were not identified in any intervention.

Conclusion: It is evident that interventions tested to date to improve opioid prescribing and CNCP management in primary care are homogenous. Interventions should incorporate strategies that address determinants other than 'Knowledge', and explicitly include components that align with determinants shown to impact provider behaviour such as 'Skills' and 'Beliefs about consequences'.

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Title: Suppressing Small Counts for Public Release: Applications of Reproducible Analytics in Chronic Disease Surveillance

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In 2016, the Observatory for Population & Public Health of British Columbia launched the Chronic Disease Dashboard, an online reporting tool designed to address the gap in surveillance of chronic diseases. To protect against re-identification risk, the Ministry of Health required redacting small counts prior to releasing disease rates into public domain. These preparations, when conducted manually, have proven to be arduous, time consuming, and prone to human error.

Approach: While finding a “small” count, operationalized as “ < 5 ” was straightforward, detecting conditions, in which suppressed values could be recalculated from related cells, involved human judgement. As part of the embedded research by a Health System Impact Fellow (2017), the Observatory set out to automate this task, designing a reproducible workflow that (1) split data into disease-by-year data frames of a specific form, (2) applied a sequence of algorithms trained to recognize conditions that made recalculation of suppressed values possible and (3) printed a graph for each case of suggested automatic redaction to be confirmed by a human.

Results: The automated suppression was successfully integrated into the Dashboard maintenance. Data preparation, application of custom algorithms, and production of graphs were implemented in R and published as a version-controlled RStudio project on Github (<https://github.com/ihacru/suppress-for-release>). A fully reproducible example with fictional data was made available to demonstrate the current logic of suppression and to ensure the availability of documentation for the future staff of the Observatory charged with Dashboard maintenance. Anticipating the evolution of suppression logic, we isolated the logical tests responsible for redaction and provided several options to vary the degree of preserved information. This work is an important milestone in modernizing Observatory’s analytic capacities and popularizing applied data science among its staff. This paper gives the overview of the workflow and key data.

Conclusion: This case of embedded research demonstrates the benefits and feasibility of integrating practices of reproducible analytics into routine workflow of epidemiological surveillance. We make a strong case for employing such data science devices as (1) workflow maps and (2) function dependency trees to structure applied projects and ensure their reproducibility.

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Author: Wendy Kubasik

Title: ON THE EFFICACY OF PHYSICIAN COMPENSATION MODELS: THE CASE FOR AN APPROACH GROUNDED IN BEHAVIORAL ECONOMICS

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canadian governments, policymakers and academic/health leaders are faced with a series of complex decisions around methods to assess, compensate and incentivize academic physicians. Despite the introduction of AFPs in several provinces, disagreements around compensation models, concerns about the reliance on clinical revenues to fund components of the academic mission, and calls to demonstrate accountability, have all endured. While anecdotal evidence on the types of compensation and academic productivity frameworks exists, research is sparse.

Approach: This study uses a mixed-methods research design, combined with a theoretical approach grounded in behavioral economics, to explore the compensation and assessment models used by four Canadian clinical academic departments (Anesthesia, Medicine, Pediatrics and Surgery) over a five-year period. The study includes 150 academic physicians and two universities. Four research phases were employed as follows: document analysis; bibliometric analyses (citations, h-Index); advanced People Analytics (a new approach, the K-MAAP®); and, qualitative interviews of academic leaders using a semi-structured interview questionnaire. All participants received some form of university-derived compensation, and were ranked in the top 40 in their department.

Results: Each department implemented a novel compensation and assessment model. However, Pediatrics demonstrated consistently higher levels of productivity than the other departments during the study period, plus an average increase in academic outputs of 11.8% between 2006 to 2011, and 22.1% in 2010/11 alone. Pediatrics is on an academic comprehensive Alternative Funding Plan; their compensation system includes triennial review, a base salary and annual review, an annual performance bonus (ranging from 1-11% of gross income), career progression through the ranks, mentorship, and recognition. Surgery demonstrated high levels of outputs, but productivity was stable during the study period. Of note, Surgery uses a performance bonus alone to encourage academic performance (value of 1-4.5% of gross income). Anesthesia and Medicine also demonstrated growth.

Conclusion: New methods to compensate academic physicians should be considered. This study provides evidence that an academic comprehensive AFP – with clear measures for both clinical and academic deliverables – may be optimal. The challenge is that there is currently very little performance-related data to support integrated planning exercises and accountability.

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Title: Variation in the Care of Children with Inflammatory Bowel Disease: A Population-Based Cohort Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The incidence and prevalence of inflammatory bowel disease (IBD) among Canadian children is rising rapidly. Children with IBD, including subtypes Crohn's disease (CD) and ulcerative colitis (UC), experience diarrhea, abdominal pain, fatigue, and psychosocial stress. These children may require hospitalization and surgery, risks which may be reduced by specialist gastroenterology care. We evaluated variation in health services utilization and surgery rates across pediatric IBD centres in Ontario.

Approach: Cases of IBD <16y (FY 1999-2010), identified from health administrative data using a validated algorithm, were assigned to pediatric IBD centres based on location of IBD hospitalization, endoscopy and IBD outpatient care. Cases with no IBD care at a pediatric centre were grouped. Frailty models, median hazard ratio (MHR), and Kendall's τ described variation in IBD-related ED visits, hospitalizations, and surgery 6-60 months after diagnosis, adjusting for age, sex, rural/urban, and income. Mean diagnostic lag (time between first visit for IBD-related sign/symptom and IBD diagnosis) and proportion of children with IBD care by gastroenterologists were evaluated as centre-level predictors.

Results: Of 2584 IBD cases, 44.7% visited the ED and 35.9% were hospitalized; 0.18% (MHR 1.06) and 0.41% (MHR 1.09) of variation, respectively, resulted from between-centre differences. Hospitalization, but not ED visits, was more common at centres with more children cared for by gastroenterologists (HR 2.09, 95%CI 1.26-3.45) and longer diagnostic lag (HR 1.011, 95%CI 1.003-1.019). Among 1529 CD cases, 14.1% required intestinal resection; 1.79% of variation resulted from between-centre differences (MHR 1.20), with decreased risk at centres with more gastroenterologist care (HR 0.24, 95%CI 0.07-0.84) and longer diagnostic lag (HR 0.98, 95%CI 0.97-0.99); including centre-level variables decreased variation (τ 0.005%; MHR 1.01). Minimal variation was observed among the 11.0% of 872 UC cases requiring colectomy (τ 0.37%; MOR 1.09); colectomy was not associated with centre-level

Conclusion: There is little variation across groups in ED visits, hospitalizations, or surgery; however, centre-level access to specialist care and time to diagnosis decreased variation between centres. It is essential to understand between-centre differences to ensure all children have equal access to high-quality IBD care.

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ID: 147

Author: Kerry Kuluski

Title: Measuring What Matters: Capturing Client and Caregiver Home Care Experiences to Inform Survey Re-Design

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Improving care and experiences for people and their caregivers is a key priority among policy makers across Canada. The objective of this research was to understand the homecare experiences of clients and family caregivers across Ontario to inform the development of client and caregiver homecare experience surveys. Too often, measurement tools are developed without the input of the user, and thus, runs the risk of failing to capture the things that matter most to people.

Approach: We conducted a combination of interviews and focus groups with 28 home care clients and caregivers across Ontario between May and October, 2018. Our guiding research questions were: “What matters most to home care clients and caregivers?” and “How can we best measure their home care experiences?” We purposively sampled a range of clients and caregivers including those from northern and southern Ontario, short and long stay homecare clients, caregivers of pediatric and elderly clients as well as those who were French Speaking. Interviews and focus groups were audio-recorded, transcribed verbatim and analyzed using qualitative descriptive methods.

Results: Core categories identified by clients and caregivers as being pertinent to experience that should be measured were: organization of care (e.g., coordination, continuity and scheduling; knowing what’s available; and access); quality of care (e.g., variability of quality between homecare providers, programs and regions); relevancy of care (alignment of services with personal needs); and personal impacts of care (e.g., personal costs; willingness to advocate; and experiences of stigma). Measurement considerations suggested by clients and caregivers included developing survey questions that were specific enough to be actionable; including open ended questions to capture context/detail; being mindful of the variability in homecare experiences; diversifying survey collection methods; and being accountable to survey findings.

Conclusion: As we endeavor to develop home care experience surveys for clients and caregivers, it is important that we not only consider what is meaningful (addressing the core components of home care) but what is actionable (detailed enough to allow a funder or provider to respond).

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Title: Same-day physician access in long-term care homes is associated with reduced hospital transfer rates: A retrospective cohort study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Hospitalizations and emergency department (ED) visits are common among residents in long-term care (LTC) homes (also known as nursing homes). These hospital transfers are burdensome for residents and costly to the health care system. Time in hospital also increases the risk of infection, falls, delirium, and functional decline. We conducted a retrospective cohort study to examine the association between same-day physician access in Ontario LTC homes and resident hospitalizations and ED visits.

Approach: We administered a survey to Ontario LTC homes from March-May 2017 to collect their typical wait time for a physician visit. We linked the survey to administrative databases to capture resident characteristics, hospitalizations, and ED visits. We defined a cohort of residents living in survey-responder homes between January and May 2017 and followed each resident for six months or until discharge or death.

We estimated negative binomial regression models on counts of hospitalizations and ED visits with random intercepts for LTC homes. We controlled for residents' sociodemographic and illness characteristics, LTC home size, chain status, rurality, and nurse practitioner access.

Results: We received survey responses from 161 LTC homes (response rate=26%), representing 20,624 residents. Fifty-two homes (32%) reported same-day physician access. During the six-month follow-up 2,273 residents (11%) were hospitalized and 4,440 residents (22%) visited an ED.

Among residents of homes with same-day physician access, 9% had a hospitalization and 20% had an ED visit. In contrast, among residents in homes without same-day access, 12% were hospitalized and 22% visited an ED during follow-up.

The adjusted hospitalization and ED rates among residents of homes with same-day physician access were 21% lower (rate ratio=0.79, $p=0.02$) and 14% lower (rate ratio=0.86, $p=0.07$), respectively, than residents of other homes.

Conclusion: Residents of homes with same-day physician access experience lower hospitalization and ED visit rates than residents in homes that wait longer for physicians, even after adjusting for important resident and LTC home characteristics. Improved access to physicians has the potential to reduce hospital transfers of LTC residents.

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Title: Urban-rural differences in long-term care home access to human resources and diagnostic tests: a survey and retrospective cohort study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Urban-rural health inequities are well documented in primary care, but less is known about urban-rural differences in long-term care (LTC) services. The objective of this study was to compare rates of emergency department (ED) visits in urban and rural LTC homes and examine how inequitable distribution of resources contributes to differences.

Approach: We conducted a survey of Ontario LTC homes to determine their access to diagnostic tests and human resources. We then linked survey results to administrative databases to capture resident characteristics and ED visits. Homes located in communities with <10,000 residents were considered rural, others urban. We defined a cohort of residents in LTC between January and May 2017 and followed residents for six months or until discharge.

We constructed a multilevel negative binomial regression model for ED visits. Covariates included resident characteristics, home rurality, access to psychiatrists, nurse practitioners, and wait times for physicians, urine cultures, X-rays and blood tests.

Results: 167 homes (27%) responded to the survey, 140 (84%) urban and 27 (16%) rural. Urban homes had better access to psychiatrists (83% vs. 60%) and nurse practitioners (65% vs. 48%) compared to rural homes. Urban homes also had shorter wait times for urine cultures, but longer wait times for physician visits and X-rays.

Crude ED visit rates were higher in urban homes (1.93 visits per 1,000 person-days vs 1.58 in rural homes, $p < 0.001$). In the adjusted model, rurality was not a significant predictor of ED transfer (rate ratio=1.18, $p=0.20$). Shorter wait times for X-rays and physician visits were associated with fewer ED visits.

Conclusion: Urban LTC homes in Ontario have higher ED visit rates. The association is confounded by important LTC home and resident factors. Longer wait times for X-rays and physician visits among urban homes may contribute to their higher ED visit rates.

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Author: Maude Laberge

Title: Parents' preferences for follow-up visits for children living with type 1 diabetes

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Although patients may initiate a visit to a health care provider, follow-up visits are often based on recommendations from providers.

For parents of children with type 1 diabetes (T1D), children have scheduled visits every three months. These visits are scheduled regardless of how well controlled the diabetes is. Our study examines how benefits and burden from the parents' perspective could affect their preferences in regards to the frequency of regular follow-up care.

Approach: We developed an online patient survey, which was distributed to parents of children living with T1D in Quebec, Canada. The survey was available in French and English, and distributed through diabetes clinics, on social media groups and forums for parents of children with T1D. The survey was developed in collaboration with a parent of a child with T1D to ensure that it was appropriately reflecting the services in regular follow-up care and that the language was understandable and clear. We conducted a Poisson regression on parents' preference on the number of months that should separate two follow-up visits.

Results: A total of 272 parents answered the survey throughout the province of Quebec. The mean child age was 7.3 (sd 5.0) and the mean number of years with the diagnosis was 6.6 (sd 4.0). The majority (59%) had an insulin pump; 15% of children had other health conditions. The average preferred interval reported was 4 months.

The number of years that the child had lived with the diagnosis, being in a higher income group, and being a single parent were associated with a preference for spacing out follow-up visits. Reporting receiving helpful information and a child having co-morbidities were associated with preferring shorter time between visits.

Conclusion: Preferences of parents in the frequency of follow-up visits vary and are sensitive to the benefits perceived from the visits and the associated burden. Health services could be adapted to reflect children's needs and patients' preferences.

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Title: Polypharmacy in older adults with multimorbidity: a systematic review of the economic impact of interventions to reduce potentially inappropriate prescriptions.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Population aging comes with an increase in older individuals living with multiple chronic conditions leading to a rise in the number of prescription drugs. Polypharmacy, defined as the consumption of multiple drugs simultaneously, is associated with the risk of receiving potentially inappropriate prescriptions (PIPs). The purpose of our study was to conduct a systematic review of the economic impact of interventions intended at reducing PIP in older multimorbid adults with polypharmacy.

Approach: A systematic review was conducted following the PRISMA methodology. The search for articles was conducted in March 2018 using the following databases: Ovid-Medline, Embase, CINAHL, Ageline, Cochrane, and Web of Science. We included articles published between 2004 and 2018 that studied multimorbid older adults aged at least 60 years with polypharmacy. The intervention studied had to be aimed at reducing PIP and present results on costs.

Results: A total of 3,506 articles were identified. The review process resulted in 16 studies included in the systematic review. The interventions involved different provider types, with a majority described as a multidisciplinary team involving a pharmacist and a general practitioner, and sometimes involving patients in the decision-making process. Interventions appeared to be generally cost-effective. However, the quality of the studies was generally low: few stated the perspective, conducted sensitivity analyses, or explained potential sources of bias.

Conclusion: Although the evidence remains limited, some interventions to reduce PIP may provide higher benefits than their implementation costs. There is a need to identify and address barriers to the scaling-up of such interventions, starting with the current incentive structures for pharmacists, physicians, and patients.

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Title: Approaches to introducing patient-based funding models: A Ontario-Quebec comparison

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canadian hospitals have traditionally been funded through global budgets, which have some advantages, notably in terms of administrative simplicity and financial predictability. However, drawbacks of this funding mechanism – lack of incentives for productivity and efficiency- may have contributed to long wait lists for some procedures, and to the development of patient-based funding (PBF) models. The objective is to analyze and compare approaches to introducing PBF in Ontario and Quebec in the past 15 years.

Approach: This is a descriptive study that consists of documenting the approaches and experiences of the two provinces with the introduction of PBF. We collected documentation, both published and unpublished from various sources, including presentations made in academic events and internal government reports. We conducted a review and we extracted key elements from the collected documentation: context, policy objectives, dates in which they were implemented, strategies to achieve objectives, characteristics of the funding, results and unintended consequences. We conducted a SWOT (strengths, weaknesses, opportunities, threats) analysis of the approach in each province.

Results: In both provinces, PBF models were introduced in response to the First Ministers commitments in the 2003-2004 Accords to reduce wait times in key service areas: surgeries, cancer prevention and treatment and imaging. The funding models introduced were slightly different, although both provinces developed activity-based funding models (ABF) as a strategy to increase capacity that could lead to reducing wait lists. Quebec's list of included surgeries was more extensive and not limited to those targeted in the Accords. This first phase (2004 to 2012) included a pay-for-results (P4R) element in that organizations received incentives for achieving volume targets. The second phase was the development of funding models that included quality elements. Service integration differs and presents specific challenges to the development of integrated funding models.

Conclusion: Both provinces intend to move towards integrated funding models. Each funding model was developed with specific objectives: increase capacity, quality, access and/or appropriateness within the specific services. Evaluation of the programs first implemented have led to adjustments mainly in terms of the pricing or funding conditions.

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Title: Costs of a diabetes diagnosis: a method to estimate marginal individual costs of the disease trajectory

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Diabetes affects 3 million people in Canada, yet the cost of the disease to provincial health care systems is largely unknown. Approaches to estimating marginal individual disease costs vary but generally consist of comparing the costs of a population with a diabetes diagnosis with those of a population not affected by the condition. The objective of the present study is to develop a methodology to estimate the marginal individual costs of a diabetes diagnosis.

Approach: Adults who received a diagnosis of diabetes during the fiscal year 2011-2012 were identified in the Quebec health insurance database (RAMQ) at the Institut national d'excellence en santé et services sociaux (INESSS). Health services utilization data were extracted for the study period, i.e. from 2006-2007 to 2017-2018, which was determined so as to cover five years before and five years after the diagnosis year. Difference-in-differences (DiD) with matching and lagged-dependent variable (LDV) approaches were tested. Analyses were conducted separately depending on the setting (clinic or hospital) where the diagnosis was made. Costs were estimated for family physicians' and specialists' services.

Results: After excluding people who died during the study period, a total of 41,378 adults were included as the diabetes cohort, i.e. with a diagnosis in 2011-2012. The control group consisted of 6,833,049 people.

The trends in costs for family physician and for specialist services in the diabetes cohort in the five-year period prior to the diagnosis are not parallel to the trends of the control group. The LDV performed better in all analyses. Higher proportion of cost variations were explained when using data from the year 2008 for specialists' costs, while using data from 2010 results in better fit for the costs in family physician services.

These results suggest that the increase in costs begins before the diagnosis.

Conclusion: There is a surge in people's costs in the year of the diabetes diagnosis. However, the increase in costs in the years precedes their diagnosis, which could reflect a deteriorating health status. Our results suggest that early detection could potentially reduce the marginal costs of diabetes.

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Title: The power of Knowledge Mobilization to strengthen health systems for youth

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Over 7 years, from 2011-2018, Wisdom2Action (W2A) has supported the Canadian youth-serving sector to integrate evidence, access evaluations and undertake engagement to strengthen their programs and ultimately, increase the positive mental health outcomes of young people they serve. With a commitment to youth engagement and participatory action, W2A has led knowledge mobilization (KMb) activities that value research evidence, practice evidence and lived experience to truly understand what works in programs and services for young people.

Approach: As noted previously, we used the PARIHS model to understand our KMb work and to communicate this to stakeholders. We undertook activities that gathered and contextualized the knowledge through knowledge synthesis reports and knowledge-sharing events, and then also facilitated the uptake of best and promising practices through KMb Innovation programs.

Results:

- increased capacity of youth serving sector to undertake evaluation and engagement and use evidence
- increasing capacity of youth advisors to be professionals in youth mental health (see this link <https://www.wisdom2action.org/wp-content/uploads/2018/06/W2A-YAC-Evaluation-Report.pdf>)
- increased linkages amongst researchers and service providers (see our impact evaluation at wisdom2action.org)
- In our work, service providers and youth are considered as both knowledge producers and knowledge users – a significant shift in KMb roles. By valuing their experience in the development of promising practices, service providers and youth develop more interest in using research evidence. For researchers, this participatory approach also extends their role from knowledge producer to include knowledge user, and our projects have enhanced researchers' capacity to engage in KMb in community-based settings.

Conclusion: In our work, service providers and youth are considered as both knowledge producers and knowledge users – a significant shift in KMb roles. By valuing their experience in the development of promising practices, service providers and youth develop more interest in using research evidence.

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Title: Blood Donation Deferral Policy for Men Who Have Sex With Men: A National Community-Based Survey of Awareness and Attitudes

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The current policy of restricting men who have had any kind of sex with another man (MSM) in the past year from donating blood in Canada is contested on the basis of discrimination and scientific evidence. Using a community-based research approach working with gay, bisexual and queer men, we sought to determine the level of awareness of key facts informing the current blood donor screening policy and acceptability of policy alternatives currently being debated.

Approach: We conducted an in-person cross-sectional survey in fifteen cities across Canada from June-September 2018. To be eligible, participants had to live in Canada, be at least 15 years old, and either identify as a non-heterosexual man or report sex with another man in the past five years. Participants were recruited from lesbian, gay, bisexual, queer and transgender (LGBTQ) Pride festival events. self-completed an anonymous paper questionnaire including a set of awareness and attitudinal questions related to blood donor screening and policy alternatives. Data were manually entered, verified, and analyzed in StataSE 13.1 to produce descriptive statistics.

Results: Of 3318 participants, 72.2% were aware of the current 1-year deferral policy. Proportions of participants aware of key facts around this policy were lower: all blood donations are tested for HIV (64.1%), donor screening aims to reduce 'window period' infections (43.9%), and MSM have 70 times greater risk for HIV than other men (44.2%). The majority of participants felt the current policy was discriminatory (86.6%). Acceptability of policy alternatives for donor screening were generally high: shorter deferral period for MSM (80.4%), screen by number of sexual partners regardless of gender (78.8%), screen by recency of new sexual partners (77.7%), screen by specific sexual practices with higher HIV transmission risk (76.1%). 92.4% of participants said they would donate in the future if they were allowed.

Conclusion: Participants were largely aware of the current 1-year MSM deferral policy, felt it was discriminatory, and agreed that several policy alternatives were acceptable. Using screening questions that more accurately predict HIV risk would enable MSM who have only had negligible-risk sex with another man to contribute to the blood supply.

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Title: The Missing Link in Integrated Care Models? A Qualitative Study of the Role of Community Pharmacists

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Integrated care models, such as the Health Links approach to care in Ontario, are used increasingly for patients with complex health and social needs. 75% of these patients are taking an average of 13 medications. Medication optimization is community pharmacists' expertise, but they are generally not included in these models, representing a potential gap in care. The study objectives were to explore stakeholder perceptions of formally linking community pharmacy with the Health Links approach.

Approach: A qualitative study using semi-structured telephone-based interviews was conducted. Interviewees were working in Ontario as either community pharmacists, clinicians in Health Links or team-based care models, and decision-makers in Health Links or Local Health Integrated Networks. Recruitment was done through the researchers' networks, Ontario Pharmacists Association newsletter, social media, and snowball sampling. Interviews continued until thematic saturation was achieved. We used content analysis following the Qualitative Analysis Guide of Leuven approach to identify themes. The codebook was generated by three members of the research team. The Consolidated Framework for Implementation Research (CFIR) was used as a conceptual framework.

Results: Interviews (n=22) were completed in Summer 2018. Participants had favorable perceptions of potential pharmacist involvement but were split whether linking with community pharmacists or embedding a pharmacist was a better choice. There were differing views of the community pharmacists' capabilities for providing care to patients with complex needs. A majority of participants denied concerns regarding a community pharmacist's business conflict of interest but indirectly referred to it throughout the interviews. This incongruence may represent an unspoken opinion that cannot be overcome if left unaddressed. Most decision-makers admitted struggling to meaningfully engage with community pharmacists. Using CFIR, barriers were categorized within the inner settings (e.g. culture and implementation climate), and process constructs. Potential enablers suggested were: increased accessibility of pharmacists, remuneration, and information-sharing processes (e.g. technology).

Conclusion: This study demonstrated that although involvement of pharmacists in integrated care models was positive, there were perceptions about community pharmacists that represented key challenges in optimally involving them. Barriers represented cultural, implementation climate, or process issues that will not easily be improved with the suggested enablers of technology or remuneration.

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Title: Moving towards meaningful health care performance reporting in primary care: using population segments

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As interest and investment in performance measurement and reporting continues to increase, organizations are aiming to enhance the usefulness and actionability of performance information. One emerging approach is to compare health system performance by “segments” of the population with similar characteristics and expected health services needs. The objective of this work was to implement a framework for population segmentation for the purposes of performance measurement in primary care.

Approach: Information from encounters with the health system were used to classify the population of British Columbia, Canada into one of four population segments based on expected health services needs: low need, multiple morbidities, medically complex, and frail. Each segment was further classified using socioeconomic status (SES) as a proxy for patient vulnerability. We examined primary care use, health care costs, and selected quality measures (access, continuity, coordination) by segment and used logistic regression analyses to examine predictors of costs in each segment.

Results: Of the 3.4 million people meeting eligibility criteria, the majority (82%) were in the low need segment; frail was the smallest segment (2%). Average costs increased steadily from the low need (\$1,386) to frail segment (\$10,637). Differences in primary care quality by segment were minimal when presented as raw data but when quality measures were included in regression models some important differences emerged. For example, accessing primary care outside business hours and discontinuous primary care (defined as 5 or more different GP’s in a given year) were associated with higher health care costs across all segments; higher continuity of care was associated with lower costs in the frail segment only (RR=0.61).

Conclusion: Segments created distinct groups of patients with different health care use and cost profiles suggesting they may have some utility for primary care performance measurement and reporting. Our findings demonstrate that variables such as SES and use of regression analyses may be important enhancements to population segments.

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Title: Trends in physician specialist care delivery to long-term care home residents over 10 years: A population-based retrospective cohort study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Long-Term Care (LTC) home residents are often frail and multimorbid, sometimes requiring specialist physician care. However, the increased burden of arranging visits outside the LTC home given residents' functional and cognitive impairments may impede resident access to specialists.

In this study we described visit patterns to medical specialists among LTC home residents, evaluated how resident and facility-level characteristics influenced access to specialist care, and examined trends in specialist visits in the last year of life.

Approach: A population-based retrospective cohort study using linked health administrative data to determine the rate of specialist physician visits in a prevalent cohort of residents (n=255,266) from Ontario LTC homes between January 1st, 2007 and December 31st, 2016. Visit rates were measured per resident-year based on physician billings and stratified by location (on-site vs. outside LTC as outpatient). Facility and resident demographic and health characteristics were assessed as determinants of receiving specialist care. Visit rates in the last year of life were calculated for a subset of residents (n=13,652) who died in LTC between January 1st, 2013 and December 31st, 2016.

Results: Over 10 years, the rate of specialist visits outside LTC was 3.58 visits/resident-year, compared to 1.85 visits/resident-year on-site. Outside LTC, visit rates to cardiology were most common (0.41 visits/resident-year). Psychiatry had the highest rate of on-site visits (0.26 visits/resident-year).

Residents received more specialist visits if they were younger, male, married, severely functionally impaired, or in a 400+ bed home. Residents with five or more chronic conditions had the highest visit rate (7.73 visits/resident-year); 69% of these visits occurred outside LTC. Residents with dementia had 5.80 visits/resident-year, while residents without dementia had 8.20 visits/resident-year.

Specialist visits in the last year of life increased by 246% on-site and 56% outside the home; rates were highest in the final week of life (2.02 vs. 3.64 visits/resident-year, respectively).

Conclusion: Frail residents with dementia and multi-morbidity received less specialist care in their home, despite their need and physical and cognitive impairments. Residents receive more visits at the end-of-life, most often outside the LTC home. Targeted on-site access to commonly-used specialties (i.e. cardiology) could minimize burdensome transitions to improve resident care.

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Title: Differential health outcomes of recent immigrants in long-term care homes: A population-based retrospective cohort study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Over 20% of Canadian older adults aged 65 years or older are immigrants, many of whom have long-term care (LTC) needs. However, immigrants often face challenges to accessing health services, including language barriers and cultural-specific needs, that may lead to differential health outcomes.

This study describes the characteristics of immigrant older adults residing in Ontario LTC homes and compares the hospitalization and mortality rates of recent immigrants to long-term Canadian residents in this setting.

Approach: We conducted a population-based, retrospective cohort study of incident admissions to publicly-funded LTC homes in Ontario between April 1st, 2013 and March 31st, 2016. Using linked health administrative databases, we identified recent immigrants who arrived in Canada after 1984 and developed multivariable regression models to assess the effect of immigrant status on all-cause hospitalization and mortality within 1 year of LTC home admission. We used nested models to explore the relative contribution of (1) facility characteristics as well as resident demographic and clinical variables, (2) chronic diseases, and (3) primary language of the resident to our outcomes of interest.

Results: Recent immigrants comprised 4.4% of residents in Ontario LTC homes; the majority were from East and South-East Asia (52.2%), and half (53.9%) had no competency in either official Canadian languages upon arrival. At LTC home entry, immigrants were younger with greater functional and cognitive impairments.

Adjusting for health and demographic covariates, immigrants had a lower rate of mortality (HR 0.68, 95% CI 0.57-0.80) but were more likely to be hospitalized (HR 1.11, 95% CI 1.02-1.22). Adjusting for language ability, the effect of immigrant status on mortality remained but differences in hospitalization became non-significant. Mortality rates were lower among more recent (<15 years since arrival) immigrants (HR 0.77, 95% CI 0.64-0.93) than immigrants who arrived 15-31 years prior to LTC admission (HR 0.84, 95% CI 0.62-1.14).

Conclusion: Despite greater functional and cognitive impairments, recent immigrants in LTC had lower mortality than long-term Canadian residents, which may be reflective of the 'healthy immigrant effect'. Language barriers were associated with increased risk of hospitalization, highlighting the need for strategies to overcome communication barriers to improve resident outcomes in LTC.

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Title: Emergency department visits and mortality on weekends and holidays: A population-based retrospective cohort study of Ontario's long-term care home residents

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Long-Term Care (LTC) homes typically have fewer direct care staff and decreased access to primary care physicians on weekends and holidays. Resident-provider relational continuity of care may also be disrupted on weekends and holidays, when care is provided by part-time staff who are less familiar with residents' treatment plan and goals of care.

The objective of this study was to evaluate LTC home residents' outcomes on weekends and holidays compared to weekdays.

Approach: We conducted a population-based, retrospective cohort study of adults aged 65 or older (n=201, 080) residing in publicly-funded LTC homes in Ontario, Canada, between January 1st, 2013 and December 31st, 2016. We used linked health administrative databases to calculate the rates of emergency department (ED) visits and all-cause mortality per 10,000 LTC days. ED visits were stratified as avoidable (using a previously developed algorithm) and non-avoidable (i.e. avoidable ED visits subtracted from all ED visits). We present results across weekdays ED (stratified by day of the week), weekends, and holidays.

Results: The overall rate of ED visits across the study period was 24.62 visits/10,000 LTC-days. The rate of non-avoidable ED visits was highest on weekdays (18.94 visits/10,000 LTC-days), with the highest rate on Fridays (19.95 visits/10,000 LTC-days). Holidays had the lowest rate of non-avoidable ED visits (17.40 visits/10,000 LTC-days).

Conversely, the rate of avoidable ED visits was highest on holidays (6.33 visits/10,000 LTC-days), followed by weekends and Fridays (both 6.14 visits/10,000 LTC-days). Comparatively, the average rate of avoidable ED visits on Mondays to Thursdays was 5.95 visits/10,000 LTC-days, with the lowest rate on Tuesdays (5.87 visits/10,000 LTC-days).

The rate of death was highest on holidays (8.78 deaths/10,000 LTC-days) followed by weekends (8.31 deaths/10,000 LTC-days) and weekdays (8.11 deaths/10,000 LTC-days), with the lowest rate on Fridays (7.94 deaths/10,000 LTC-days).

Conclusion: Preliminary observations suggests LTC home residents may experience poorer outcomes in the form of more avoidable ED visits and death at times when staffing resources and resident-provider continuity of care is lower. Further research will investigate variations in outcomes across resident and facility characteristics to better understand observed trends.

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Title: How do voluntary primary care enrolment programs in two Canadian provinces compare with respect to equity?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Enrolment of patients with primary care providers' practices is an important aspect of strong primary care systems. In British Columbia (BC) and Quebec, patient enrolment has been encouraged through voluntary programs that offer additional payments to physicians who agree to enroll new patients. Physicians may make decisions about whether or not to participate in programs, and whether or not to enroll individual patients. We explore the equity implications of such programs.

Approach: We examine multiple enrollment programs implemented in BC and Quebec over the period from 2003 to 2015. These programs differ with respect to the populations eligible, payment amount, and other requirements of enrolment. We use physician payment records to compare enrolled patients to patients who were eligible for each program but not enrolled with respect to level of comorbidity and socioeconomic status. We also explore whether patterns of comorbidity and socioeconomic status between enrolled and unenrolled patients differ based on target population, payment amount, and other requirements of the enrolment programs.

Results: As expected, patients eligible for enrolment programs on average had a higher number of chronic conditions and slightly lower socioeconomic status. However, patterns of comorbidity between enrolled and eligible but unenrolled patients differed by program. In BC programs targeting individual chronic conditions, the enrolled patients had fewer chronic conditions and on average slightly higher neighbourhood income. The reverse was true for payments for programs targeting patients with complex illness, which also included much higher payments. Enrolment programs in Quebec that targeted the general population enrolled patients with lower morbidity and material deprivation on average.

Conclusion: Sicker and socioeconomically disadvantaged patients have greater need for primary care. Sicker and socioeconomically disadvantaged patients may be less likely to benefit from voluntary enrolment programs if there is no deliberate consideration of patient complexity or socioeconomic status in program design.

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Author: Ruth Lavergne

Title: The PREFeR (PRioritiEs For Research) Project: How do patient and primary care provider perspectives on research priorities align?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient-oriented research focuses on patient-identified priorities, supports research that engages patients as partners, and improves patient outcomes. The PREFeR (PRioritiEs For Research) project aimed to identify patient priorities for primary care research in British Columbia and to compare patient and primary care provider perspectives. We also compare patient-identified priorities to existing research priorities developed by researchers and policymakers.

Approach: Employing Nominal Groups Technique, the 10 patient members of the BC Primary Health Care Research Network Patient Advisory group brainstormed experiences of 'what stood out' in BC primary care. Researchers and patients worked together to group these thematically into topics. We then developed and administered province-wide surveys to capture patient and primary care provider ratings of the importance of the top 10 topics, as well as patient and provider characteristics. An in-person dialogue event brought together patients and primary care providers to identify and interpret areas of agreement and disagreement. This approach was informed by the Dialogue Model.

Results: There was strong alignment between patient and provider importance ratings. The top-rated topic for both patients and providers was being unable to find a regular family doctor/other primary health care provider. The next three topics for both groups were support for living with chronic conditions, mental health resources, and information sharing, including EMR. Though ratings were similar, the dialogue event revealed that patients and providers may have interpreted some topics differently. There was considerable overlap between patient-generated topics and topics previously identified by researchers and policymakers, but patients identified two additional topics (mental health resources, improve and strengthen patient-provider communication) and added richness and context where topics aligned.

Conclusion: More similarities than differences in topic importance between patients and providers emerged in the online surveys. Patients added depth and context to topics previously identified in similar exercises among policymakers or researchers. Including patients in priority setting exercises a broad area like primary health care is feasible and fruitful.

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Author: Chad Leaver

Title: Availability and current utilization of virtual care and e-services in Canada: Foundations for a visionary future

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Digital health technologies to support patient care at a distance) have long been available in Canada, largely through a broad suite of telehealth programs and service providers. Innovation in some international health systems has seen citizen utilization of virtual visits grow to over 50% of healthcare interactions. Availability and accessibility options for virtual visits are advancing in Canada, yet the current proportion of care in Canada that is virtual is not currently known.

Approach: We completed the Canadian physician survey via a multi-method approach with distribution to 45,000 primary care and specialist physicians in Canada listed in the Canadian Medical Directory. Physicians completed the survey manually or online. A population survey of Canadians - representative by age, sex, province; and rural and remote communities was completed online in French and English. Descriptive and cross-tabular analyses determined the current provision of virtual care services by physicians and the availability and use of virtual care services by Canadians. Self-reported health system utilization estimates the proportion care in Canada that is currently virtual.

Results: 2,406 Canadians and 1,393 physicians: primary care (n=799); and specialists (n=594) completed surveys. In the past year, 6% of Canadians report they can currently visit with their health care provider virtually online by video. Men were more likely than women (5% vs. 2%); and younger Canadians (<35yrs) were more likely to have had a virtual visit in the past year. Virtual visits were either patient initiated or coordinated by a regular care provider/specialist clinic. Most (53%) were conducted at a health care facility, with the remaining 47% in the patient's home. Of the self-reported healthcare interactions reported by Canadians 1.6% were virtual in 2018. Physicians use/provision of virtual care services and highlight and key facilitators to support practice integration.

Conclusion: Modern healthcare systems are demonstrating evidence- and value-based outcomes through virtual care interactions. Canadians are increasingly interested in accessing virtual care services, yet only a small percentage can do so. Remuneration is important, however, improved technology, privacy/security guidelines and leadership by clinician associations are warranted to support increased practice integration.

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Title: Implementing Performance Indicators for the Patient Medical Home: A Deliberative Consensus Approach to Metrics in Primary Care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Variants of Primary Care Networks (PCNs) have emerged in several Canadian provinces as policy mechanisms to support delivery of the Patient Medical Home (PMH). As Alberta moves towards measuring the performance of its PCNs, this research addresses known policy implementation challenges. Specifically, it combines qualitative research and consensus-building techniques to identify PMH performance metrics that reflect the priorities and perspectives of the province's three key health services constituencies: health professionals, policy makers and citizen-patients.

Approach: In Phase I, we will conduct qualitative interviews and observations focused on which metrics of PMH performance each of the three constituencies prefer, and how those metrics interact with payment models, governance structures and other policies. These data will be analysed using an inductive grounded theory approach, with findings presented to participants in pre-briefing sessions in Phase II. Appropriately primed, participants from Phase II will then take part in a consensus conference in Phase III. This innovative, facilitated event will leverage the shared understandings created in Phase II and use Nominal Group Technique to achieve a consensus on appropriate metrics.

Results: Our participatory action research will create a common language and collective understanding amongst health professionals, policy makers, and citizen patients, focusing the three constituencies on what ought to be measured within Alberta's PCNs, and how. This common language will be central to avoiding the known downsides and unintended consequences of performance measurement in healthcare service delivery. Specifically, qualitative research-informed deliberations and consensus building are central to avoiding implementation challenges such as gaming, decoupling, and effort substitution. Implementable metrics that are respected by all of the constituencies will emerge from a self-reflective and group deliberative process that allows their clinical level quality, system level accountability, and patient experience improvement priorities to align.

Conclusion: Facilitating the inclusion of perspectives from all three health services constituencies as performance metrics for PCNs are developed is an innovative approach. Lessons on how to structure similar processes so that they effectively drive implementable metrics for quality improvement elsewhere in Canada will be learned.

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Title: Comparing the characteristics of patient partners with Canadian patients: starting the conversation on diversity in patient engagement

Type of Abstract: Oral Presentation: Standard

Background and Objectives: With growing emphasis on patient partnership to help reshape and improve health care, questions of representativeness and diversity of patient perspectives have been raised, with concerns that certain sociodemographic groups may be less frequently engaged. This issue is particularly important from a health equity perspective, given the risk that marginalized and vulnerable people may be less frequently engaged thus exacerbating existing inequities in health.

Approach: In this context, it is important to ask in what ways patient engaged as partners within the health care system are any different from the general profile of Canadian patients, and why. This study aims to compare the characteristics of patient partners with the statistical profile of Canadian patients. Characteristics of patient partners engaged in medical education were extracted from the University of Montreal patient partner database. General Canadian patient data were extracted from the 2014 Canadian Community Health Survey. Age, sex, occupation, usual source of care and health conditions were compared between patient partners and Canadian patients.

Results: Among 118 patient partners who reported information on sex, birth years, postal codes and occupation, the mean age was 50.5 years (from 16 to 74), 70.3% were female, and 27.1% were retired from work. The mean numbers of health conditions reported were 2.11 (ranging from 0 to 10). The most common conditions were cancer (28.8%), trauma (13.6%) and mood disorder (10.2%). Compared to the University of Montreal patient partners, Canadian patients were significantly younger (mean = 43) and the proportions of females and retirees were lower (51.2% and 5.3%). The prevalence of cancer, trauma and mood disorder among Canadian patients was less frequent (12.1%, 4.2% and 11.3%). The distributions of other chronic conditions were similar between the patient partners and Canadian patients.

Conclusion: Patient partners' characteristics are different from those of Canadian patients. Differences can be due to the patient partners' recruitment process, competency profiles, and expected roles in medical education. Proactive strategies to recruit under-represented groups should be implemented. Patient partners' characteristics not monitored should also be explored from an equity perspective.

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Author: Joel Lexchin

Title: Association between commercial funding of Canadian patient groups and views about funding of medicines

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Raise issues about conflict of interest of patient groups and how to evaluate their submissions about funding of pharmaceutical products.

Approach: The presentation makes use of the existing database maintained by the Common Drug Review and panCanadian Oncology Drug Review that records patient groups' views about whether drug products should be recommended for funding.

Results: Almost 90% of patient groups declared a conflict of interest and in nearly all cases these were conflicts with the company making the drug under consideration. Almost 90% of the time, views about whether the drug should be funded were positive. When the preliminary pCODR recommendation was not to fund the drug, patient groups disagreed with that recommendation over 90% of the time.

Conclusion: The large majority of patient groups making submissions about funding of particular drug-indications had conflicts with the companies making the products and their views about the products were almost always positive. This association between funding and views needs to be further investigated to determine if a true cause and effect exists.

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Author: Wenshan Li

Title: The burden of caregiver distress: a population-based observational study of older adults with additional care needs in Ontario.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canadians rely heavily on informal caregivers to care for its aging population. Caregiving responsibilities often lead to caregiver distress which, in turn, jeopardizes the quality of care provided and the health of both caregivers and care-recipients. We examined the prevalence and one-year change in caregiver distress in Ontario, described the health profiles and resource utilization of care-recipients based on their caregivers' distress status, and identified factors associated with caregiver distress.

Approach: The cohort consists of Ontario residents, aged over 50 years, with additional care needs and hence given at least one Residential Assessment Instrument-Home Care (RAI-HC) assessment between January 1, 2007 and June 30, 2015. Using two RAI-HC items to determine if the primary caregiver was distressed at time of assessment, the proportion of caregivers distressed at baseline and one-year changes in their distress status were determined. We examined how care-recipient demographics, health, resource utilization, and caregiver/caregiving variables differed according to caregivers' distress status. Logistic regression was performed to identify which care-recipient and caregiving variables are associated with baseline caregiver distress.

Results: Caregivers of 24% of 526644 older adults were distressed at initial assessment. Of those with subsequent assessments within one year, caregivers of 12% became distressed, 7% became non-distressed, 19% remained distressed, and 62% remained non-distressed. Higher proportions of care-recipients with distressed caregivers are female, have poorer health, greater functional dependence and behavioural problems, and more ER visits. Higher proportions of distressed caregivers are spouses and living with care-recipients, unable to increase care, and dissatisfied with family support. Care-recipients' mental/cognitive status had the strongest associations with caregiver distress (ORs: 1.48-2.19), followed by their socio-demographics and functional status (ORs:1.10-1.84). Most disease diagnoses, except for Alzheimer's/dementia, showed weak/no associations. Caregiver-recipient relationship/cohabitation and receipt of family support are strongly associated (ORs: 1.41-4.22), while caregiving load is not.

Conclusion: These results provide an overview of the burden and progression of caregiver distress, and highlight how different care-recipient profiles are associated with caregivers' distress status and progression. Ongoing analyses will examine older adults cared by distressed versus non-distressed caregivers longitudinally to determine if their health outcomes and care transitions differ.

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Author: Clare Liddy

Title: eReferral Systems Worldwide: Informing Provincial Plan for eReferral in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Accessing specialist care continues to be a major challenge in Canada. The current referral process remains unsafe and inefficient. Electronic referrals (eReferrals) hold great potential toward the ultimate goal of seamless communication, operational and clinical efficiencies, and provision of quality care to patients. We conducted a worldwide scan of eReferral systems to gain a better understanding of existing services with the goal of informing eReferral implementation on a provincial scale.

Approach: We performed an environmental scan, supplemented by a direct outreach to Canadian and US stakeholders with implementation experience in eReferral. The search strategy included the terms “eReferral” OR “electronic referral” OR “e-Referral” AND a country name based off a systematic review of eReferral systems and a list of the World Health Organization’s member states. A list of countries that had implemented eReferral was kept and once the search was completed, further analysis of each system took place. The existing eReferral systems in countries and regions with access issues and publicly funded healthcare systems were characterized.

Results: Our scan revealed eleven eReferral systems employed worldwide: Finland, Denmark, Norway, Netherlands, UK, Ireland, New Zealand, Australia, US (San Francisco General Hospital), Scotland, Canada (Alberta). The different countries were very deliberate in choosing to address a specific national priority via eReferral. These ranged from addressing excessive wait times (e.g. Finland, US, Scotland), patient safety focus (Norway, UK, Ireland, New Zealand, Australia), clinical pathway initiated due to leadership by a specialist champion (Netherlands, New Zealand, US), to policy and strategic priority. In terms of impact, improvements in efficiency, effectiveness (including cost effectiveness), patient safety, provider satisfaction and equity were observed with eReferral implementation.

Conclusion: The goals and impacts achieved by the different countries are highly aligned with the Institute of Medicine’s (IOM) six domains of quality care framework: safety, effectiveness, patient-centredness, timeliness, efficiency and equity. We hence recommend this framework be used as a foundation for a province-wide implementation eReferral solution.

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Title: Using an integrated knowledge translation (IKT) approach to enable policy change for electronic consultations in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Challenges of translating innovations into practice have been widely recognized in Canada, previously described as the land of perpetual pilot projects. We set out to use the integrated knowledge translation (IKT) approach to bring together a research team, interested partners and stakeholders, including patients, to identify policy issues affecting the spread and scale up of an eConsult service. eConsult innovation enables asynchronous primary care provider to specialist communication through the use of a secure platform.

Approach: The IKT strategy we employed was based on five key activities leading to a National eConsult Policy Think Tank meeting: 1) identifying potential policy enablers and barriers, 2) engaging national and provincial/territorial partners, 3) including patient perspectives, 4) undertaking co-design and planning, and 5) adopting a solution-based approach. We successfully leveraged a diverse set of stakeholders, including patients, care providers and decision makers in strategic discussions around each activity. The aim was to have stakeholders identify actionable suggestions for next steps (e.g. further round table discussions, advocacy, papers and policy briefs), which could inform a national implementation strategy.

Results: We have outlined a practical approach to engaging stakeholders in deliberative policy dialogue and influencing policy change to improve healthcare service delivery and ultimately patient experiences and health outcomes. This approach provides guidance for academic researchers and the role they need to play in the translation and uptake of research findings that could transform and support healthcare improvement. Following the Think Tank all stakeholders continued working together to synthesize and consolidate relevant, actionable solutions to identified policy gaps. A series of briefing notes were developed to provide guidance on the development of policies in five key areas: provider payment, interjurisdictional licensing, patient privacy, quality assurance, and regulation. Follow up discussions were also supported to keep this momentum going and move the national implementation strategy.

Conclusion: Addressing policy barriers known to commonly impede the translation of knowledge into action requires a different approach than the traditional academic one. By actively engaging in policy discussions and ensuring engagement of the knowledge users as per IKT approach, researchers can support better adoption and implementation of promising innovations.

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Title: The association between the Ontario Marginalization Index (ON-MARG) and adverse childhood experiences in Ontario: A population-based study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Adverse childhood experiences (ACEs) have been well established as risk factors for both adverse physical and mental health outcomes as well as a significant burden in terms of morbidity, mortality and system costs. The ON-MARG is a census-based index designed to reflect neighborhood marginalization factors and its association with health problems. We aimed to assess the marginalization factors associated with ACEs and to identify the geographic distribution of cases in Ontario.

Approach: We conducted a retrospective-cohort study using ACEs from emergency department or hospitalization visits between 2002 and 2018. The International Classifications of Diseases 10 codes were used to identify ACEs in the National Ambulatory Care Reporting System (NACRS) and Discharge Abstract Databases (DAD), which were categorized as physical, psychological, or sexual abuse, or neglect. The ON-MARG Index data was stratified into quintiles of the four marginalization dimensions, and rates of ACEs were calculated for each dimension: residential instability, material deprivation, dependency and ethnic concentration. Multilevel logistic regression models were conducted for the association between marginalization index and ACEs, adjusting for confounders.

Results: 214,404 ACEs cases were observed. Neglect (38.6%) was the most prevalent type of ACE, followed by physical (33.5%), sexual (21.9%) and psychological abuse (6.1%). The most marginalized areas of residential instability, material deprivation and dependency were found to have the highest rates of ACEs, however areas with higher ethnical concentration had lower rates of ACEs (Q5=63 vs. Q1=81 per 100.000). Physical abuse was more prevalent among children living in areas with higher residential instability (OR=1.33, 95%CI=1.23-1.43), material deprivation (OR=1.46, 95%CI=1.34-1.59), and less ethnical concentration (OR=2.02, 95%CI=1.87-2.18). Psychological abuse was more likely in areas with high residential instability (OR=1.24, 95%CI=1.08-1.42), and neglect was more frequent in areas with high dependency (OR=1.19, 95%CI=1.09-1.29). Sexual abuse was more likely in areas with lower ethnic concentration (OR=1.21, 95%CI=1.14-1.31).

Conclusion: The dimensions of the marginalization index were significant predictors of ACEs in Ontario. Areas with higher residential instability, material deprivation and dependency are associated with more cases of ACEs, while lower ethnic concentration is associated with cases of sexual and physical abuse. Future studies should target interventions to reduce ACEs.

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Author: Christine Loignon

Title: Patients and primary care physicians experiences of patient enrolment programs in British Columbia and Quebec: a qualitative descriptive study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient enrolment programs have been implemented in many provincial health care systems in Canada for improving patient's access and continuity of primary care services. We lack data on how this innovation modulates the experience of care among vulnerable patients (e.g., low-income patients). This presentation examines the perceptions and experiences of patients and primary care physicians (PCP) of patient enrolment programs in British Columbia and Quebec, two provinces with different approaches to patient enrolment.

Approach: This qualitative work is part of a larger mixed methods study set in BC and QC and funded by the CIHR SPOR PIHCl. This qualitative descriptive study was based on face-to-face, semi-structured interviews with purposively selected PCP and enrolled patients in Vancouver and Montreal. Interview guides relied on literature review and active involvement of patients and decision-makers in both provinces. Interviews (n=30) lasted 60-90 minutes and were conducted by experienced qualitative researchers in French or English. Data analysis consisted of thematic analysis of interview transcripts and debriefing sessions amongst multiple members of the research team, including patients and

Results: In QC, where patient enrolment attaches orphan patients to PCP, both patients and PCP described patient enrolment as facilitating access to primary care for unattached patients. All QC patients were satisfied and reassured with the attachment to PCP resulting from the program. Some QC physicians deplore the "cherry picking effect" leading PCP avoiding vulnerable patients such as drug user or low-income patients. The BC data analysis is still underway. Program strengths and weaknesses are expected to vary from the QC results, as the BC patient enrolment program primarily focuses on improving physician-patient relationships for patients who are already attached to a PCP. Anticipated results will describe the positive and negative aspects of the enrolment program from both patient and provider perspectives and paths for improvement.

Conclusion: This study provides original data that can be used to ameliorate programs devoted to the improvement of access and continuity of care for unattached and vulnerable patients. Our study supports the significance of involving patients in the evaluation of programs and healthcare reforms.

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Author: Julia Lukewich

Title: Achieving Primary Healthcare Excellence in Canada through Family Practice Nursing Competencies

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Family practice (FP) nurses provide feasible and affordable solutions to issues facing Canada's primary healthcare systems. FP nurses are Registered Nurses (RNs) who practice in primary care (commonly known as "family practice nurses" and "primary care nurses"). FP nurses improve access to primary care and continuity of care, reduce healthcare costs, and promote high quality care. A clear set of defined competencies will support the integration and optimization of FP nurses into primary care settings.

Approach: A panel of key nursing stakeholders, a review of international literature, and members of the Canadian Family Practice Nurses Association (CFPNA) informed a draft of national FP nursing competencies. A Delphi process will be used to obtain national agreement regarding competency statements. Delphi participants will be nurses who have expertise/experience in FP nursing (clinical, research, education, policy, administration). Subsequently, two national surveys will be completed to: (1) assess the degree to which these competencies are integrated into undergraduate nursing/post-graduate FP nursing curriculums; and (2) determine the current practice and learning needs of practicing FP nurses with respect to these competencies.

Results: The draft of FP nursing competencies is comprised of approximately 50 individual competency statements organized within 6 domains: (1) Professionalism, (2) Clinical practice, (3) Communication, (4) Collaboration and partnership, (5) Quality assurance, evaluation, and research, and (6) Leadership. These competency statements reflect entry-to-practice competencies for RNs within the primary care setting. National consensus on these statements will be sought from a panel of nursing experts/stakeholders that represent various areas of FP nursing (in-progress).

Conclusion: National FP nursing competencies will enhance the integration of FP nurses into primary care, facilitate improved team functioning, and guide professional practice. Clarity of FP nursing competencies will benefit patients, providers, and healthcare systems, and aid provincial/territorial governments and nursing organizations in the continued integration/optimization of RNs within primary care.

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ID: 366

Author: Julia Lukewich

Title: Understanding Collaborative Primary Care Practice that Involves Family Practice Nurses in Newfoundland & Labrador

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Family practice (FP) nurses are Registered Nurses who work within primary healthcare. Although integration of this role has progressed slowly in Newfoundland and Labrador (NL), it may offer a vital solution towards addressing health system challenges. This study explores experiences of FP nurses in NL by examining their current roles and activities, establishing past processes for implementing the role, and describes the benefits of this for providers and patients.

Approach: This study uses a descriptive qualitative design. An email invitation was distributed to all family physicians and Registered Nurses in NL who worked in a primary care setting and had previously agreed to share their contact information. Snowball sampling was also employed to identify additional eligible participants. Using a semi-structured interview guide, participants were asked about their experiences, roles, and scope of practice within primary care settings. Interviews were recorded and transcribed verbatim, and later analyzed using NVIVO software. A constant comparative method was employed amongst the research team to identify reoccurring codes and themes throughout the interviews.

Results: A total of 3 family physicians and 5 Registered Nurses participated in the interviews. Findings indicate that FP nurses in NL engage in a wide range of roles and activities within primary healthcare, with a focus on health education, screening and prevention, assessment, chronic disease management, and follow-up. Strategies to support communication and advanced preparation were some of the processes described to support effective integration of the nurse into the role. Continuing education opportunities and collaborative relationships with family physicians serve as facilitators to the role, whereas financial factors, such as the cost of employing FP nurses in the current fee-for-service environment, act as barriers. Participants reported many benefits for all stakeholders involved in the practice, including improved access to and greater quality of care.

Conclusion: FP nurses can serve as a valuable resource and contribute towards the delivery of high-quality care within primary care settings. As this role is currently poorly understood within NL, results can help to inform future planning and integration of nurses within collaborative primary care practices.

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Title: Case Management Models and Continuing Care: A Literature Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Background: Seniors accessing continuing care often have multiple chronic conditions. Research suggests that case management is a promising approach to reduce health care expenditure and improve patient outcomes. To optimize health delivery and patient outcomes an examination of existing models and their effectiveness is essential. This review explored case management models and their effectiveness for seniors accessing continuing care and is being used by Nova Scotia Health Authority to transform its case management approach.

Approach: Approach: A literature review for the Nova Scotia Health Authority was conducted using Joanna Briggs Institute (JBI) methods to identify studies that described case management models, standards and approaches used in continuing care. Searches were conducted by a library scientist in two databases, PubMed and CINAHL from 2010-2018. Two reviewers screened 670 titles and abstracts independently, followed by a full text review based on pre-defined inclusion criteria. The relevant content from included studies was extracted with the assistance of JBI data extraction tools. Results were organized under the following headings: case management approaches; qualitative findings; and quantitative findings.

Results: Results: A total of 37 articles were included in this review. Approaches to case management are diverse with respect to composition of care providers, method of care provision, and location of care. Among 10 qualitative studies, four themes were identified; communication, the dose balance of healthcare providers, conditions for quality case management and barriers to case management. Findings from 27 quantitative studies demonstrated that nurse-led and interdisciplinary team case management models that include home visits can effectively reduce hospital admission/readmission while lowering costs. Mixed results were found in the impact of case management on patient satisfaction, ED visits, quality of life, length of stay, self-efficacy, social integration and caregiver burden.

Conclusion: Conclusion: Nurse-led and interdisciplinary team case management can effectively reduce hospital admission of frail seniors while lowering costs, particularly in home care settings. Based on these findings the Nova Scotia Health Authority is translating this evidence into the redevelopment of its person-centered case management approach to continuing care.

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Author: Adrian MacKenzie

Title: How do health workforce planners choose the planning models they use?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Health human resources (HHR) planning in Canada and other countries has tended to rely on conceptually invalid models, resulting in inequitable access to health care. The reasons for the continued reliance on these models have received little attention within the broader literature on the 'evidence-policy gap'. The objective of this study was to identify technical and political factors affecting the choice of HHR planning models in Nova Scotia.

Approach: The study combined a literature review with a series of semi-structured interviews with key informants in Nova Scotia. The literature review targeted English-language publications in scientific journals as well as grey literature published by specific organizations such as the World Health Organization. The interviews were conducted with a purposive sample (n=5, after which saturation was reached) of the 7 policy- and decision-makers in the province whose responsibilities include HHR planning. Recurring themes across informants' responses were identified.

Results: The literature review found no empirical analyses of the factors affecting HHR planners' choices of planning model. Editorials and case reports from Australia, Canada, the Netherlands, New Zealand, and the United Kingdom repeatedly identified two factors – 1) interests of health professional educational institutions, unions, professional associations, and regulatory bodies, and 2) the availability of data – as being primary drivers of the use or non-use of different HHR planning models. Factors identified by interviewees as affecting their choice of HHR planning model included 1) the model's resonance (or lack thereof) with key stakeholder groups; 2) the technical and political capacities of their respective teams to implement the model; 3) the model's balance between complexity and comprehensiveness; 4) the availability of data to populate it.

Conclusion: Stakeholder interests and data availability were identified in the existing international literature and by Nova Scotia HHR planners as key determinants of the choice of HHR planning model. Such findings support the view that HHR planning processes are driven more by data availability than by health care system objectives.

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Author: Mary Beth MacLean

Title: Risk Screening at Veterans Affairs Canada - Review and Recommendations

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The “risk” most commonly discussed in the context of Veterans at Veterans Affairs Canada (VAC) is risk of poor well-being outcomes, since a key departmental goal is to enable the well-being of Veterans as they transition out of the military and throughout their life course. This includes well-being in the domains of health, purpose, finances, health, social integration, life skills, housing and physical environment, and culture and social environment.

Approach: This study is the first of three related to risk screening at VAC and examines the screening process and risk screening tools at VAC, the evidence on reestablishment risk and risk screening for frail elderly and provides recommendations on developing a new risk screening tool at VAC.

Results: The review found that: (1) VAC’s current screening process includes four screening tools; (2) other countries conduct interviews with veterans transitioning to civilian life, however, specific screening tools were not identified; (3) there is a lack of evidence demonstrating the effectiveness of VAC tools in triaging clients; (4) a self-assessment tool using the domains of well-being was not designed for triaging clients; (5) client need level can be segmented into case management, guided support and self-management; (6) there are 21 high-level indicators currently being used to measure the well-being of Veterans at VAC; and (7) this framework, evidence on reestablishment risk from the Life After Service Studies, and recent evidence on screening for frailty have not been included in the current risk screening tools.

Conclusion: VAC should consider developing a screening tool to replace the four existing tools. This tool should allow for triaging clients between three levels of support, and consider the well-being framework, evidence from the Life After Service Studies, and recent evidence on the effectiveness of PRISMA-7 in screening for frailty.

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Title: Development of Quality Indicators to Enhance Person-Centred Care for System-Level Application

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In Canada, healthcare systems across the country have implemented policies and programs to enhance the delivery of Person-Centred Care (PCC). Despite this, currently there are no standardized mechanisms in place to measure and monitor PCC at the system level. To address this gap, we developed a set of person-centred quality indicators (PC-QIs) that can be used to improve PCC across sectors of care. The newly developed PC-QIs will ultimately drive person-centred healthcare improvement in Canada.

Approach: The PC-QIs have been developed in collaboration with patients, community members, policy-makers, healthcare providers, and quality improvement experts through two phases of research. Phase 1 involved: identification of PC-QIs through a scoping review of the literature; an environmental scan of the existing PC-QIs previously implemented and evaluated in Canada and internationally; and focus groups with patients and interviews with healthcare providers to obtain their perspectives on PCC. The findings were synthesized, resulting in the development of PC-QIs. Through Phase 2, we conducted a Pan-Canadian initiative to refine the PC-QIs identified, using a deliberative consensus-building process using the RAND/UCLA Appropriateness Method.

Results: Of the 39 PC-QIs that were identified or newly developed through Phase 1, a total of 23 final PC-QIs were refined through the consensus process. Using the Donabedian framework for quality improvement in healthcare, 5 PC-QIs related to “structure” were developed, related to policy on PCC, PCC education, culturally competent care, and presence of structures to report PCC performance. 15 “process” PC-QIs were developed to measure equitable care, relationship and communication with healthcare providers and the healthcare system, coordination of care, and patient and caregiver involvement in care and decisions. For “outcome” indicators, 3 PC-QIs were developed to measure overall patient experience, patient-reported outcomes and whether friends and family would recommend a healthcare facility to others.

Conclusion: To guide healthcare policy and practice change, Canada needs to develop and implement efficient ongoing mechanisms to measure and evaluate quality that incorporates the patient perspective. This study is a Pan-Canadian initiative that includes a multifaceted process to develop evidence-based and patient informed PC-QIs which will improve PCC in Canada.

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Title: Person-Centred Healthcare Quality: Including Patients and Communities in the Consensus Process to Develop Quality Indicators

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The consensus process is a well-established method to ensure that the selection, refinement, and prioritization of quality indicators is supported by content experts and key stakeholders. In our study to develop Person-Centred Quality Indicators (PC-QIs), we aimed to take a novel approach to incorporating the perspectives of patients and caregivers, ethno-cultural community representations, healthcare providers, and quality improvement leads, to ensure that the PC-QIs truly reflect what matters most to people in their care.

Approach: We conducted a two-day modified Delphi consensus panel consisting of national and international panellists on March 8-9, 2018 in Calgary. We strived towards establishing a consensus panel where approximately half of the panelists comprise patients/community representatives to ensure their perspectives were well represented. The patient/community perspective would also be “weighted” equally to the perspectives of quality improvement leads, researchers, and healthcare providers. Furthermore, the consensus process was facilitated by one person-centred care researcher, and one patient partner to address potential power differentials that may arise from engaging patients/communities, researchers, healthcare providers, and quality improvement leads together.

Results: The consensus panel was comprised of 26 panelists, of which 13 were patients/community members, and 13 were person-centred care researchers, quality improvement leads, or healthcare providers from British Columbia, Alberta, Ontario, Quebec, the US, UK, and Sweden. A frequency count for speakers indicated that while patients/community members represented half of the panel, the researchers, quality improvement leads, and healthcare providers spoke about 30% more than patients. However, a content analysis of the panel discussions showed that patient /community perspectives were seen as highly valuable to the researchers, quality improvement leads, and healthcare providers. In particular, while some indicators were seen as more challenging to measure, PC-QIs that are seen as important to patients (e.g. policy for person-centred care) were adopted and refined.

Conclusion: Well-established and rigorous research methods can be adapted to better engage patients/community in quality improvement. While further study is needed for empowering people in research, placing value on the patient/community perspective can play an important role in ensuring that research is relevant and reflects what matters most to people.

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Title: Effectiveness of Quality Improvement Strategies on the Management & Control of Hypertension in Primary Care: A Systematic Review and Meta-Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite efforts to improve management and control of hypertension, evidence on the effectiveness of quality improvement strategies remains unclear. The objectives of this study were to conduct an updated systematic review and meta-analysis (based on Walsh et al. 2006) to assess effectiveness of quality improvement strategies in the management and control of hypertension in primary care and identify the most effective strategies for improvement of blood pressure outcomes.

Approach: Studies were identified in Medline, Cochrane Central Register of Controlled Trials, Embase, CINAHL, and PsycINFO databases from 1980 to October 2018. Randomized Controlled Trials that assessed 12 predefined quality improvement strategies were included. For this study-in-progress, a pilot review of 50 randomly selected full-text articles were reviewed in duplicate; and data were extracted and assessed for risk of bias. Random effects models were used to estimate the pooled weighted mean difference for systolic and diastolic blood pressure (SBP, DBP) changes. Sub-group analyses were done by quality improvement strategy. This study is registered on PROSPERO (CRD42019119009).

Results: An initial pilot review of 50 randomly selected articles from 435 identified full-text studies was conducted, following a screening of 4808 records (6413 before deduplication). Twenty-two studies assessing ten quality improvement strategies were included in this review and meta-analysis. Compared to usual care, use of quality improvement strategies were found to be effective in reducing blood pressure. All strategies individually assessed were associated with blood pressure reductions, with the exception of the electronic patient registry (n=2). Team changes (n=4), patient education (n=7), patient reminder systems (n=2), and shared decision making (n=1) strategies were associated with statistically significant blood pressure reductions. These strategies showed reductions of 5.3-5.6 mm Hg SPB and 2.7-3.6 mm HG DBP, which have important clinical implications for controlling blood pressure.

Conclusion: Preliminary findings from our systematic review and meta-analysis suggest that quality improvement strategies are effective in improving blood pressure outcomes, with further study needed on electronic patient registry strategies. We caution that these initial findings may change upon completion of the review and further exploration of sources of heterogeneity.

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Title: To pay or not to pay for performance in Canadian primary care: a rapid review of evidence from high-income countries

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Healthcare expenditures in Canada are rising, currently at 11.5% of GDP and reflecting an unsustainable financing approach. Pay-for-performance (P4P) has been suggested as a cost-effective remuneration model, whereby a practitioner's salary, or an organization's funding, is based on pre-determined performance measures (e.g., patient outcomes). However, the evidence of P4P is limited. This rapid review examines the effects of P4P in primary care on patient outcomes and whether it provides better value for patients and insurers.

Approach: MEDLINE, Embase, CINAHL, EconLit, Social Science Abstracts, Google Scholar and McMaster Health Forum's Health Systems Evidence were searched for evidence on the topic of P4P in April 2018. Sources must have examined P4P broadly in a high-income country. The search was limited to peer-reviewed journal articles. Sources that only investigated P4P in a low- or middle-income country were excluded. Sources that reported on P4P for only one health condition or a specialized health care setting were also excluded. All sources were managed in EndNote, and a thematic analysis was conducted on eligible studies.

Results: There are debates in the literature about the cost-effectiveness of P4P. Specifically, modest reductions in mortality and hospital admissions exist, but there are upfront and ongoing costs of implementing and managing a P4P scheme. P4P was not found to be associated with improved health outcomes for chronic health conditions, with the exception of diabetes. P4P does result in better quality of care, but these improvements may only be observed during the first year of implementation. P4P may encourage physicians to favourably select patients who are healthier and have fewer health needs to achieve P4P incentives, which reinforces inequities in access to care, particularly among those who are older, have chronic and intersecting health needs, and are likely of low socioeconomic status.

Conclusion: The evidence currently available on P4P is weak and inconclusive. P4P schemes can enhance short-term quality of care, but they require substantial investment in implementing and managing the scheme, which limits cost-effectiveness. Canadian policymakers, insurers and health care managers should very carefully consider the decision to implement a P4P scheme.

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Title: Achieving the enriched HSPR core competencies in a Canadian doctoral program: results from an online survey

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Greater attention is being paid to aligning the training in health services and policy research (HSPR) doctoral programs to a range of career paths. Bornstein et al. (2018) identified six professional core competencies relevant to Canadian HSPR doctoral programs. We surveyed current trainees and alumni in one of these programs to assess the importance of these competencies to HSPR trainees and the extent to which they are being integrated in their doctoral training.

Approach: We administered an online survey using LimeSurvey in April 2018 to current trainees and alumni. The survey consisted of scaled (7-point) and open-ended questions. Respondents were asked to identify and rank the importance of the six HSPR professional competencies, the extent to which their program provides opportunities to hone those competencies, and to share their feedback on how the program could better address these competencies or other competencies of value to them. Descriptive statistics were calculated for quantitative variables and stratified by year in the program, career path, and alumni status. Content analysis of the qualitative responses was also performed.

Results: Our survey achieved a 78% response rate (n = 39); 58% of respondents were in their fourth year or beyond and/or alumni. Among respondents who intend to pursue a research-oriented career, interdisciplinary work had the highest average importance rating (6.38), and 92% indicated it was very or extremely important. The dialogue and negotiation competency had the lowest average importance rating (5.25) within this group. Among respondents who intend to pursue non research-oriented careers, the most highly rated competency was networking (6.25), with 88% indicating it was important or very important. Interdisciplinary work was rated lowest (5.12) within this group. Qualitative responses identified the need for formalized mentorship, targeted networking and internship opportunities, and opportunities to collaborate and learn from and with fellow trainees.

Conclusion: Our doctoral program provides opportunities for trainees to master professional HSPR competencies. Trainees and alumni reported their desire for more explicit, structured opportunities integrated into their doctoral training tailored to specific career paths. These findings are relevant to all academic institutions offering HSPR doctoral training.

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Title: Classifying retirement home residents in Ontario, Canada: creating the first population-level retirement home cohort

Type of Abstract: Oral Presentation: Standard

Background and Objectives: There are approximately 800 retirement homes (RH) in Ontario with a resident capacity over 75,000. By 2026, 2.5 million Canadians over the age of 65 years will require continuing care supports. The private retirement home sector is a market that has not yet been investigated. Through a collaboration between the Retirement Home Regulatory Authority (RHRA) and ICES, we will leverage and link existing data sources to classify RH residents and create the first population-level cohort.

Approach: Using data from the RHRA register, we will link the RH postal code to the Registered Person's database along with individual birthdate (i.e., ≥ 65) to determine clusters of older adults who may likely live in a RH. We will use the individual ICES key numbers and link our identified clusters to the Continuing Care Reporting System to exclude those who are in long-term care facilities. We will additionally link to the Canadian Community Health Survey, because it excludes long-term care and RH residents, to help validate our cohort. Data linkage between databases will be performed in SAS.

Results: We will describe our methods and approach to identify retirement home residents, exclusive of those in LTC or in the community based on facility postal code information. We anticipate our approach will be highly sensitive to identifying RH residents and specific to excluding older adults who may reside in a long-term care facility that is attached to a RH and/or live independently within their community. We will describe the RH cohort's demographic profile and health status (e.g., income, education, chronic health conditions, etc.) and home health care service utilization. We will also conduct a subgroup analysis of RH residents who reside in rural, northern and/or remote locations.

Conclusion: The health status and health service utilization patterns of this cohort will inform the delivery of home and supportive living services and contribute to the development of health policies that are reflective of the needs of older adults. The analytic use of this cohort also informs future RHRA policies.

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Title: How successful are newly certified medical specialists at finding employment?

Type of Abstract: Oral Presentation: Standard

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 17,000 new certificants and has received over 6500 responses from 2011-2017. 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 591 certificants to date (2017). Of those, 300 responded with an average response rate of 51%.

Results: In 2017, 19% of new specialists 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 2013-2016, an average of 61% of those reporting employment challenges at the time of certification had secured a clinical position.

Certificants in both surveys state a lack of available positions, poor access to job listings and personal factors as barriers to employment post-certification. Whereas willingness to relocate, additional training, recruiters and contacts were enablers.

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 medical workforce and career planning.

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Title: Healthcare Workers' Views on the Second Victim Phenomenon

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Second victim phenomenon (SVP) has been identified as a serious issue for healthcare providers (HCP), impacting their well-being and patient safety. SVP is defined as a HCP traumatized by an unanticipated adverse patient event. The purpose of this study was to determine the extent of SVP and the resources available to support HCP across Canada.

Approach: A national self-administered online survey of healthcare providers was conducted. The survey instrument, Second Victim Experience and Support Tool, a validated tool was used to identify second victim occurrences and victim support resources. We also collected data on demographic and employment characteristics, educational history, and four open-ended questions on second victim support. The Canadian Patient Safety Institute assisted in identifying the sample.

Results: A total of 390 frontline healthcare professionals completed the survey. Of the 390 who responded, 58% indicated that they have been involved in a serious patient safety event impacting one of their patients and 32% indicated that a patient safety event caused them to experience anxiety, depression or wondering if they were able to continue to do their job in the last 12 months. Of the 123 who indicated experiencing anxiety, depression or wondering if they were able to continue their job due to a patient safety event, 89% of them did not receive any second victim support at their institution. Support that participants indicated receiving included discussion with manager and/or colleagues and employment assistant programs. 35% of participants indicated being not satisfied

Conclusion: Based on the data collected it is evident that HCP who have experienced a patient safety event are not receiving second victim support at their institution. Next steps include interviews with healthcare managers to better understand what is needed to support and implement strategies to support healthcare providers.

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Title: Financial risk protection for informal caregivers of community-dwelling dependent seniors: a comparative analysis of three welfare states (Ontario, France and England)

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In Canada, dependent seniors are increasingly choosing to age at home instead of in a long-term care facility. Ontario evidence suggests this has shifted the responsibility of care and its associated monetary costs to unpaid, informal caregivers (family members). This study explores how Ontario compares to France and England in terms of financial risk protection for informal caregivers of community-dwelling dependent seniors, and what policy lessons Ontario can learn from, or share with, these jurisdictions.

Approach: This study utilizes descriptive comparative methodology using publicly available policy documents to understand the similarities and differences in the financial risk protection policies for informal caregivers in the three jurisdictions. I draw on Esping-Andersen's welfare regime (or state) typology to select three cases that provide variation in welfare state types, and to examine the connection between broader notions of social protection for citizens and the system of financial protection of informal caregivers. I applied an institutional approach to comparing these states to further understand how design features of financial risk protection mechanisms may contribute to inequities in coverage.

Results: Results reveal two broad mechanisms to financially protect informal caregivers in the three jurisdictions: cash allowances and tax credits. Inequities in coverage can be linked to certain design features of these mechanisms, for example, eligibility and means-testing criteria for cash allowances (France), and restrictions on receiving additional financial protections for those who qualify for cash allowances (France) and tax credits (Ontario and England). Overall, France's system of financial protection is congruent with its historically conservative notions of social welfare; however, less congruency exists in England and Ontario, which are classically liberal welfare states. A liberal state accepts an active role in the universal social welfare of its citizens, yet, in Ontario, provincial and federal tax credits appear insufficient at protecting informal caregivers from financial risk.

Conclusion: This analysis demonstrates how similar and differing welfare states acknowledge their role in protecting informal caregivers from financial risk, and highlights areas for improvement. Findings suggest that Ontario may want to consider a non-means-tested cash allowance alongside existing tax credits to facilitate choice among caregivers and improve equity in coverage.

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Title: Emergency Departments Performance and Length of Stays Stagnation: A 24/7 Public Service Working from Nine-to-Five?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Emergency departments (EDs) crowding is a common issue in Canada. EDs' performance in Quebec is a governmental priority getting steady media attention. Despite significant investments, length of stays (LOS) for stretcher patients in EDs stagnates, and a perceived "crisis" persist. The objective is to shed light on the medical and administrative determinants behind LOS stagnation. We focus on delays for consultation in ED, according to the type of consultation and the time of the day.

Approach: Methodological design consist of comparative case study of 4 EDs in 2 administrative regions in Quebec. We accessed all admitted patients (kept on a stretcher for observation) data from EDs' information management systems ("SiUrge" and "MedUrge") over a two-year period (2017-2018). Selected EDs range from 19 to 45 stretchers on census and from 43 000 to 88 000 emergency visits per year. Data extracted from EDs include patient arrival time, the time of specialty consultation request by the emergency physician, the time of completion of the consultation and the consultant specialty.

Results: The results show that average consultation delays are less than 3 hours for stretcher patients between 7AM and 3PM, but are significantly higher between 4PM and 6AM, reaching up to more than 12 hours for patient between 4PM and 1AM. We found that on average 90,5% of consultations are performed between 8AM and 6:30PM, 75,5% of which take place between 9AM and 5PM. The top 5 consulted specialties are: cardiology; internal medicine, social work, gastroenterology and psychiatry. Significant variation are also found for number of consultation requests, average delays, and percentage of missing data as function of consultants specialty. One explanation of ED overcrowding might be related to the delay between patient's arrival and consultation completion time.

Conclusion: As most of consultations are realized in a nine-to-five schedule, we observed that longer delays on evenings and nights significantly impact EDs' performance. Strategies to expand consulting hours and better organization of the consultation flow might improve LOS by expediting admission or discharge decision times.

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Title: Patients' perspectives on medication for inflammatory bowel disease: contributions to health services planning

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canada has the highest prevalence and incidence rates of inflammatory bowel disease (IBD) worldwide. The rates of non-adherence to IBD medications are high (30-45%). This non-adherence issue highlights the importance of understanding patients' perspectives to better plan health services for individuals living with IBD. Up to date, no literature reviews have addressed the patients' views about IBD medication. We aimed to synthesize the evidence about patient's perspectives on medication for IBD.

Approach: A scoping review was conducted to answer the following guiding question: "What are the perceptions of patients living with IBD on their medication?" We searched the available literature using MeSH terms, subject headings, and non-controlled keywords in the following databases: MEDLINE, EMBASE, SCOPUS, CINALH, and Web of Science. The inclusion criteria were: 1) research conducted in Canada or the United States among patients with IBD exploring their perspectives on medication for either Crohn's disease or Ulcerative colitis; 2) studies with quantitative, qualitative, or mixed methods; and 3) articles published in English between 1998 and 2018.

Results: This is a work in progress. After screening 932 records, 42 full-text articles were reviewed. In total, eight studies were included in the analysis. The lack of knowledge about medication seems to be an issue for IBD patients. Doubts about efficacy, side effects, and characteristics of the medication suggest that IBD patients do not have enough knowledge about their medication. Some negative views on IBD medication may also be present (e.g. some patients dislike rectal administration methods, the high number of pills, and potential side effects). Believing that the medication was not necessary after "feeling better" was a misconception probably associated with limited knowledge about the prescription.

Conclusion: Lack of knowledge, patient's doubts, negative views, and misconceptions about medications are some of the perceptions among patients living with IBD. Health services for IBD could be better planned when taking into consideration patients' perspectives. Patients informed about their medications could lead to better disease management and improve healthcare outcomes.

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Title: Health and healthcare outcomes among unattached patients in Nova Scotia

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patients who cannot access a regular primary healthcare provider (family physician or nurse practitioner), known as 'unattached patients', are an emerging and growing phenomenon in Canada. The rate of unattachment in Nova Scotia grew from 6.4% in 2010 to 13.1% in 2017. The objective of this study was to understand the experiences of unattached patients in Nova Scotia and to identify the outcomes of unattachment related to health and healthcare needs.

Approach: As the first phase of a sequential exploratory mixed-methods approach using an instrument design model, in-depth semi-structured qualitative interviews explored the experiences of unattached patients. We recruited participants using invitational letters to people on the provincial unattached patients' registry, stratifying on gender, location and age. To maintain registry confidentiality, letters were sent by the Nova Scotia Health Authority registry custodians. We also recruited using social media. We conducted 9 interviews that were digitally recorded and transcribed verbatim. Data were coded in NVivo and analyzed using the Framework Method. Patient co-investigators participated in the study design and data analysis.

Results: In the framework focused on outcomes of unattachment, we identified four main categories, each with several sub-themes. First, unattachment produced stress and negative feelings among participants related to the loss of the patient-provider relationship, concerns about the future, and lack of choice for a provider. Participants experienced care burden related to finding and managing information, managing their medical history, navigating the healthcare system, cost, travel, and time (including wait-times for alternate healthcare, such as walk-in clinics). Participants experienced lost care related to the (dis)continuity of care, medical follow-up, and access to prescriptions and referrals. Finally, participants noted health outcomes related to their unattachment including condition-specific negative health outcomes, the need to self-diagnose and medicate, missed diagnoses, and positive lifestyle changes to prevent healthcare need.

Conclusion: Participants experienced a variety of negative health and healthcare outcomes related to not having a regular primary healthcare provider. Outcomes identified will complement existing literature as we develop an unattached patient survey to capture the magnitude of their challenges; and provide recommendations for waitlist triaging and interim service options.

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Title: Natural Language Processing and Machine Learning with Free-Text Electronic Medical Record Data for Hypertension Case Finding

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Presently, hypertension surveillance relies on administrative databases such as the Discharge Abstract Database (DAD), which contains diagnosis codes abstracted by human coders from free-text discharge summaries. Although coding of hypertension is mandatory in Alberta, it is undercoded in the DAD, leading to underestimates of prevalence and subjecting research studies to a risk of misclassification bias. In this work, we demonstrate machine-learning methods using newly available free-text electronic medical records (EMRs) to improve hypertension identification.

Approach: We developed case finding algorithms for hypertension using Natural Language Processing (NLP) and Machine Learning (ML). Our cohort comprised approximately 2000 randomly selected adults who were admitted to any of three major acute care facilities in Calgary in 2015. We linked free-text discharge summaries from Sunrise Clinical Manager EMRs to 'gold standard' hypertension labels obtained via manual chart review. We extracted clinical concepts from the discharge summaries using cTAKES, an advanced medical NLP program. We then applied supervised ML techniques to identify hypertension cases from this cohort. We compare our algorithms to case definitions from the DAD as a baseline.

Results: The diagnosis codes used for hypertension case finding in the DAD were chosen based on our previously published work. While the DAD codes had a high positive predictive value (PPV) of 0.96, the sensitivity was only 0.52. We tested a wide variety of ML methods, using the clinical concepts extracted by cTAKES as predictors. The best performing methods were tree-based ensemble models (RandomForest, XGBoost), which significantly outperformed both the baseline from the DAD and linear models such as logistic regression. The superior models greatly boosted the sensitivity (0.79-0.82) while maintaining a high PPV (0.94-0.95). Stratification by age, length of stay, and mortality will also be presented.

Conclusion: Algorithms generated by ML will play an important role in more accurate hypertension surveillance – maintaining a high PPV while dramatically improving the sensitivity. Technology such as this could reduce coding time while simultaneously improving the quality of the DAD. In future this work will be expanded to other conditions.

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Title: Impact of Delisting High-Strength Opioid Formulations from a Public Drug Benefit Formulary on Opioid Utilization in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: To reduce the risk of prescription opioid-related adverse events and diversion, high-strength opioid formulations were removed from Ontario's public drug formulary in January 2017, except for palliative care patients. We evaluated the impact of this policy on access to opioids and opioid dose.

Approach: We conducted a cross-sectional time-series analysis among recipients receiving publicly-funded, high-strength opioids from August 2016 to July 2017. We measured the proportion of recipients who discontinued or changed method of payment for high-strength opioids, and all opioids, in the 6-month post-policy period. We also measured the impact on weekly median daily opioid dose dispensed (in milligrams of morphine equivalent; MME) using interrupted time-series analyses. Stratifications included palliative care status and prescription payer (publicly-funded vs. all). As a test of specificity, we repeated the analyses in a historical cohort.

Results: Following the policy, 33.2% of non-palliative patients and 21.1% of palliative patients accessed high-strength opioids through cash or private insurance (compared to 0.2% and <1% in the historical cohort, respectively; $p < 0.05$). The weekly median daily dose of publicly-funded opioids immediately decreased among non-palliative patients (-10.0MME, 95% confidence limit [CL] -16.8 to -3.1) and gradually decreased among palliative patients (additional -3.9MME per week, 95% CL -5.5 to -2.3). Among all opioid prescriptions, weekly median daily doses only declined for non-palliative patients (additional -0.7MME per week, 95% CL -1.3 to -0.2).

Conclusion: The delisting of publicly-funded high-strength opioid formulations was accompanied by changes in payer and small reductions in the weekly median daily doses dispensed. Although observed dose reductions of less than 1 MME per week are likely not clinically relevant, safety implications of these changes require further monitoring.

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Title: Spending among public drug program beneficiaries across Canada: A pan-Canadian Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Drugs are the fastest growing cost in the Canadian healthcare system, largely due to the increasing number of high cost drugs entering the market. This is a major concern for the sustainability of public drug programs in the healthcare system. We sought to compare the contribution of spending on high drug cost beneficiaries between provinces in Canada.

Approach: A cross-sectional analysis was conducted among all provinces (except Quebec) in Canada in fiscal year (FY) 2016. For each province, 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 by province and cost-group: 1) total cost and proportion of total spending; 2) proportion receiving a high-cost drug (claim >\$1,000); 3) number of unique drugs dispensed per person; 4) top 10 most commonly reimbursed medications; 5) top 10 most costly medications.

Results: Across all provinces in FY2016, the top 5% of beneficiaries accounted for approximately half of all drug costs (range: 40.8% [Nova Scotia] to 55.4% [Saskatchewan]), while the top 1% of beneficiaries accounted for approximately one-quarter of all drug costs (range: 21.0% [New Brunswick] to 29.2% [PEI]). High drug-cost beneficiaries used nearly double the number of medications compared to other beneficiaries (5-10 drugs [top 1%] and 8-16 drugs [top 5%] vs. 3-6 drugs [remaining 95%]). The majority of high and very high drug-cost beneficiaries received an expensive drug (range: 73.5%-99.5%), compared to other beneficiaries (range: 0.0% and 4.6%). Chronic oral medications were the most utilized medications for all 3 groups while biologics, HIV and hepatitis C treatments were the mostly costly medications for high-cost drug beneficiaries.

Conclusion: There is a high degree of clustering of drug-costs among public drug beneficiaries across Canada, largely driven by the use of expensive medications and a higher number of medications. Potential interventions and policies to help reduce spending are likely different for both factors.

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Title: Evaluation of the Fentanyl Patch-for-Patch Program in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The impact of opioid use is a major public health concern, particularly for fentanyl given its high potency and potential for overdose. To curb the misuse and diversion of fentanyl patches, an early Patch-for-Patch (P4P) program was implemented in Ontario between 2012 and 2015. The program requires that patients return their used fentanyl patches to a pharmacy before receiving a refill. We evaluated the impact of this program on opioid dispensing and opioid toxicity events.

Approach: We conducted a cross-sectional time-series analysis among counties that implemented the P4P program using Ontario administrative claims data. We zeroed all intervention months and looked at outcome rates in the 5 years prior and 12 months following the launch of the P4P program. Outcomes included monthly rates of prescriptions dispensed for fentanyl and non-fentanyl opioids, and opioid toxicity-related hospital emergency department visits and hospital admissions. We modeled each outcome using an interventional autoregressive integrated moving average (ARIMA) model and tested the impact of the P4P program using a ramp function.

Results: We analyzed 16 counties that implemented the early P4P program. Introduction of the P4P program resulted in a significant decline in the number of fentanyl patches dispensed (from 1,277 to 888 patches per 10,000 population; $p=0.04$). There was no significant change in the rate of non-fentanyl opioids dispensed ($p=0.32$) or opioid toxicity related hospitalizations and emergency department visits ($p=0.4$) following the implementation of the program.

Conclusion: The implementation of a P4P program in select counties in Ontario reduced the number of fentanyl patches dispensed, but did not have any measurable impact on rates of opioid toxicity-related hospitalizations and emergency department visits. These findings support the use of P4P programs as part of larger opioid-abuse reduction strategies.

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Title: Impact of the publicly funded herpes zoster immunization program on burden of disease in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Herpes zoster (shingles) infections are associated with considerable morbidity and healthcare costs. In September 2009, a live, attenuated herpes zoster (HZ) vaccine (Zostavax) became available in Canada. This was subsequently provided free of charge to all Ontario residents aged 65 to 70 through a publicly-funded immunization program commencing in September 2016. We examined the impact of the HZ vaccine availability and Ontario's immunization program on HZ incidence and associated health service use in Ontario.

Approach: We conducted a population-based time-series analysis among Ontarians aged 65 to 70, between January 2005 and June 2018. We report monthly rates of herpes zoster incidence, defined as 1) physician visit for HZ with a HZ antiviral prescription dispensed within +/- 5 days, or 2) emergency department (ED) visit or hospitalization for HZ. Secondary outcomes included monthly rates of HZ related ED visits and hospitalizations. We stratified outcomes by sex, income quintile and rural/urban residence. We used interventional autoregressive integrated moving average (ARIMA) models to examine the impact of the HZ vaccine availability and Ontario's immunization program on our outcomes.

Results: The availability of a herpes zoster vaccine did not significantly impact trends of incidence or related hospitalizations among Ontarians aged 65 to 70 ($p=0.43$ and $p=0.97$, respectively). In contrast, the subsequent implementation of Ontario's immunization program significantly reduced the rate of incidence among our population by 25.3% between August 2016 and June 2018 ($p<0.01$; from 4.8 to 3.6 individuals per 10,000 population). The rate of ED visits and hospitalizations for herpes zoster were relatively stable between January 2005 and August 2016, but significantly decreased following Ontario's immunization program by 36.2% ($p<0.02$; from 1.7 to 1.1 hospitalizations per 10,000 population between August 2016 and June 2018). Findings were consistent when stratified by sex, income quintile and rural/urban residence.

Conclusion: Ontario's publicly-funded immunization program for herpes zoster led to significant reductions in the incidence of disease and related hospitalizations among individuals aged 65 to 70 in the province. Our future work will evaluate the cost savings associated with the reduction in herpes zoster-related health service use.

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Title: Findings from a scoping review on self-management of problem gambling

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Problem gambling (PG) is a serious public health concern, especially among people who experience homelessness, addiction, and mental health challenges. Little research has focused on self-management in gambling recovery, despite evidence that a substantial number of people do not seek formal treatment and prefer managing issues independently. The purpose of this study was to identify what is reported in the scientific literature on the self-management of PG and to provide recommendations for future research.

Approach: Our study used a scoping review method, which aims to broadly synthesize research literature on a specific topic to identify key concepts, gaps in research, and reported evidence. We developed a literature search strategy to identify articles published from 2000 to 2017 that examined self-management strategies for PG among adult populations (aged 18+). From the 2,662 potential articles identified, we found 31 articles that met the criteria for inclusion. We extracted and charted data on self-management strategies, study methods, characteristics of participants (e.g., age, sex, race, health comorbidities), and key findings.

Results: The majority of studies examined self-exclusion, which refers to entering into a formal agreement with a venue to ban oneself from their gambling activities. Other studies explored the use of workbooks, money or time limiting strategies, cognitive, behavioural and coping strategies, stress management, and mindfulness. Overall, 23 self-management strategies were identified, indicating a growing interest among researchers to examine a variety of strategies. Key findings from studies suggest evidence is still too limited to determine whether these strategies are effective in reducing gambling-related behavior and harms. There was also a lack of research on self-management approaches tailored to specific groups (e.g., age, income, gender, ethnicity and race).

Conclusion: Given that only a minority of people with gambling concerns seek treatment, it is important to examine the self-management of gambling as a complement to formalized treatment. This is especially true for people with complex health and social needs who are more likely to experience PG and barriers to treatment.

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Title: Retention of visa trainees following post-graduate medical residency training in Canada.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Visa trainees are international medical graduates (IMG) who come to Canada to train under a student or employment visa and are expected to return home after their training. How many visa trainees remain in Canada after their training? We examine the retention patterns of visa trainee residents funded by Canadian (regular ministry and other), foreign, or mixed sources.

Approach: We linked data from the Canadian Post-MD Medical Education Registry with Scott's Medical Database to identify visa trainees who remained in Canada after their exit from post-graduate training. Eligible trainees were IMG who were visa trainee as of their first year of training, started their residency program no earlier than 2000, and exited training between 2006 and 2016. We used cox regression to compare the retention (work in Canada Y/N) of visa trainees funded by Canadian, foreign, and mixed sources. Potential covariates included gender, training program, region of medical graduation, age, legal status at training exit, and

Results: Of the 1,913 visa trainees in the study, 431 (22.5%) were Canadian-funded, 1,353 (70.7%) were foreign-funded, and 129 (6.8%) had mixed funding. The largest group (70.6%) came from Middle Eastern and North African countries. 16% of visa trainees remained in Canada up to 11 years after exiting post-graduate training. Trainees who remained on visas (HR: 1.91; 95% CI 1.60-2.30), were funded exclusively by foreign sources (HR: 1.46; 95% CI 1.25-1.69), and who had graduated from 'Western' countries (HR: 1.39; 95% CI 1.06-1.84) were more likely to leave Canada than trainees who became citizen/permanent residents, were funded by Canadian sources, or visa graduates of Canadian medical schools, respectively.

Conclusion: 1 in 6 visa trainees remain in Canada after their residency training. Trainees with Canadian connections (funding and/or change in legal status) were more likely to remain in Canada.

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Title: How Do Post-graduate Medical Fellowship Programs Contribute of Canada's Physician Supply?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Fellowship programs are additional years of specialized training following medical residency training. The number of fellowship trainees has grown substantially in Canada in the past 30 years. In fellowship programs, the number of visa trainees exceeds the number of Canadian medical graduates (CMG) and citizen/permanent resident international medical (C/PR-IMG). To what degree do fellows contribute to Canada's physician supply? We examine the retention patterns of CMG, C/PR and visa trainee fellows.

Approach: We linked data from the Canadian Post-MD Medical Education Registry with Scott's Medical Database to identify fellows who remained in Canada after their exit from post-graduate training. Eligible fellows entered their fellowship program in 2000 or later, and exited training between 2006 and 2016. We used cox regression to compare the retention (work in Canada Y/N) of CMG, C/PR-IMG, and visa trainees. Potential covariates included gender, training program, region of medical graduation, funding source, age, legal status at training exit, and training region.

Results: Of the 12,876 fellows in the study, 3013 (23.4%) were CMG, 1,233 (9.6%) were C/PR-IMG, and 8,630 (67.0%) were visa trainees. The bulk (60.1%) of fellowship funding comes from non-government Canadian sources (e.g. hospitals, charities). Most fellows (74.8%) left Canada after their training: 24.7% CMG, 62.7% C/PR-IMG, 93.9% visa trainees. After controlling for region and year of training, C/PR-IMG (HR: 3.27 95% CI 2.95-2.62) and visa trainees (HR: 6.17 95% CI 5.70-6.69) were more likely to leave Canada than CMG; and those funded by foreign sources (HR: 1.24 95% CI 1.10-1.40) or unknown sources (HR: 1.18 95% CI 1.03-1.34), but not other Canadian sources, were more likely to leave Canada than those funded by Canadian ministry sources.

Conclusion: The study results raise many questions about the role of fellowship programs in Canada's physician workforce, particularly for C/PR-IMG for whom fellowship represents a way to enter, but not remain, in the physician in Canada. Fellowship programs, as suggested by the large proportion of funding from non-government Canadian sources

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Title: Are they really a different population? A retrospective cohort of linked population data comparing fracture incidence and risk factors between home care recipients and long-term care residents in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Fractures pose a significant threat to health and quality of life. Typically, older adults in long-term care (LTC) are frailer than those in the community. With a shift to maintaining independence at home it is unclear if the burden of fractures is different for people receiving home care (HC). Our objectives are to describe one-year incident fracture rates (hip, wrist, spine, humerus, pelvis), and characterize the differences in fracture risk factors between HC and LTC.

Approach: This is a retrospective cohort study of linked population data of long-stay HC recipients and LTC residents. We excluded those with multiple admissions, end-stage disease, comatose, no one-year reassessment, or received hospice/respite care. Data were obtained through the Resident Assessment Instrument-HC and Minimum Data Set 2.0, and one-year incident fractures in the Discharge Abstract Database and National Ambulatory Care Reporting System. Crude fracture incidence rates stratified by sector, age, and sex were calculated per 10,000 persons. Odds ratios (OR) with 95% confidence intervals (CI) were calculated to determine the difference in fractures and risk factors between HC and LTC.

Results: HC recipients (n=112,652) were 18% [OR (95% CI): 1.18 (1.11 to 1.24)] more likely to experience a fracture within one year than LTC residents (n=29,848), particularly of the spine [OR (95% CI): 2.74 (2.29 to 3.28)] and pelvis [OR (95% CI): 2.11 (1.72 to 2.58)]. HC recipients were younger [mean age (standard deviation): HC 78.8 (12.5); LTC 82.1 (9.8)], more independently mobile [OR (95% CI): 2.74 (2.67 to 2.81)], and had no [OR (95% CI): 1.39 (1.35 to 1.44)] or mild [OR (95% CI): 2.62 (2.55 to 2.69)] cognitive impairment, and were more likely to have fallen [OR (95% CI): 2.26 (2.15 to 2.38)], had health instability [OR (95% CI): 6.03 (5.71 to 6.37)], or taken psychotropic medications [OR (95% CI): 32.02 (30.08 to 34.07)].

Conclusion: Older adults receiving HC are a high-risk population that need targeted fracture risk assessment and prevention strategies given that they have different characteristics fracture patterns (e.g., more non-hip than hip fractures) and risk factors.

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Title: What impacts success? A qualitative study of the structure of the Connect 2 Care (C2C) program

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Connect 2 Care (C2C) is a mobile outreach navigation program in Calgary, Alberta for adults with complex social and health needs and high acute care use, who experience challenges accessing needed community services. As part of a larger study informed by the Donabedian framework of structure, process and outcome, we aimed to understand the structural facilitators and barriers to program success from C2C team members' perspective.

Approach: We conducted semi-structured interviews to explore frontline C2C staff experiences with the program and their perspectives with respect to its ability to deliver the care expected and provide the services required to meet their clients' needs. All frontline team members which included four health navigators, three nurses, and two managers participated in individual interviews in October 2018. Interview transcripts were analysed using inductive line-by-line thematic analysis. Consensus in coding, theming, and definitions was reached using an iterative process among the complete research team.

Results: Several codes emerged from the interviews that reflect a shared organizational culture regarding the uniqueness of the program as well as its complexity in terms of processes, goals, and outcomes that demand a particular set of structural attributes. Five main themes emerged in relation to the program structure with potential effects on program processes and outcomes: 1) the uniqueness of C2C compared to other community programs that serve vulnerable populations, including its mobility and relationship with partner organizations; 2) staff onboarding and training with emphasis on the health component of the program; 3) team commitment, knowledge, and attitudes toward their clients and the program; 4) program management and leadership; and 5) modifying factors and contextual factors, influencing the other four themes.

Conclusion: The contribution C2C makes to the health of vulnerable individuals is facilitated by core program characteristics including its mobile nature and team composition. For sustainability and expansion, structural changes addressing barriers in training, leadership, and empowerment of staff will enhance its ability to fully accomplish goals and meet clients' needs.

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Title: Enhanced communication between inpatient and community pharmacists to optimize medication management during transitions of care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Community pharmacists are medication experts who are well positioned to support people during care transitions, yet are not routinely included in communications between hospitals and primary care providers. PROMPT (PhaRmacy cOMmunication ParTnership) facilitates medication management by optimizing information sharing between pharmacists across care settings. This developmental study evaluated the feasibility of implementing the PROMPT intervention, assessed the perceived effectiveness of various components of the intervention, and explored how contextual factors influence implementation.

Approach: PROMPT was implemented for 14 weeks (January – April, 2018) in internal medicine units in two Toronto hospitals, and featured two contact points between hospital and community pharmacists around patient discharge: (1) faxing an enhanced discharge prescription and discharge summary to a patient's community pharmacy and (2) a follow-up phone call from the hospital pharmacist to the community pharmacist. Our multi-method approach featured electronic patient records, telephone surveys, and semi-structured interviews with participating community and hospital pharmacists. The Consolidated Framework for Implementation Research (CFIR) was used as a conceptual framework to develop the interview guide and inform descriptive thematic analysis.

Results: Twelve pharmacists (including residents and students) completed 45 PROMPT interventions across two hospital sites. Thirty-seven community pharmacies received PROMPT patients. In at least 75% of interventions, discharge prescriptions with hospital pharmacists' contact information were faxed and follow-up calls were placed by hospital pharmacists to community pharmacies. Discharge summaries were faxed to community pharmacies in only 22% (n = 10/45) of interventions. PROMPT was favorably regarded by hospital and community pharmacists because it improved intraprofessional communication and facilitated patient care across practice settings. Pharmacists identified greater and timelier access to information and ease of program implementation as key positive features of PROMPT. Pharmacists suggested enhancements for streamlining the program and optimizing its impact on patient care.

Conclusion: Hospital pharmacists were challenged to incorporate PROMPT into existing practice. However, PROMPT was favorably received by community pharmacists who perceived it as beneficial to workflow, information-sharing, and patient care. Findings revealed opportunities for refinement of future iterations of PROMPT.

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Author: Deirdre McCaughey

Title: Developing a Standardized Process for Healthcare System Evaluation of Healthcare Quality and Safety Education

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Since the Canadian Adverse Events study (2004), healthcare systems across Canada have focused attention on in-organization education to improve provider abilities to reduce adverse events and poor patient outcomes. Despite continued emphasis on improving knowledge and skills, Canadian Institute for Health Information (CIHI) data has revealed only marginal improvement in adverse event reduction. High-performing healthcare systems across Canada are now developing more comprehensive Healthcare Quality and Safety Education (HQSE) pathways.

Approach: In partnership with Alberta Health Services (AHS), our research team utilized four strategies to map out HQSE pathways. First, we screened all AHS training courses for HQSE specific content (n = 1238). Next, we used logic models to classify courses as being quality improvement/patient safety as well as classify knowledge domains within each course (e.g. QI methods). Then we developed a competency model to identify the level of expertise taught in each course (e.g., beginner, intermediate, mastery). Finally, we interviewed 28 AHS stakeholders to validate the above classification models as well as determine the value/knowledge acquisition measurement of training.

Results: Our research partnership with AHS resulted in the development of a HQSE curriculum map represented by two models: 1) Content Map—identifies all HQSE course content as being QI and/or patient safety; and 2) Content Matrix—identifies the knowledge domains taught in each course as well as the competency level of each course. AHS can develop additional HQSE courses based on content need as well as use these models to create a skillset matrix for organizational position requiring QI/PS expertise. Lastly, we developed a set of recommendations for AHS to: 1) embed greater student application of new skills post training, 2) develop mechanisms to measure course attainment and participant learning and 3) develop measures to capture benchmarking data and calculate the value derived from HQSE.

Conclusion: Comprehensive HQSE is required within healthcare systems across Canada for effective quality improvement and patient safety to reduce the occurrence of adverse events. This is achievable through standardized HQSE pathway that is based on competency, organizational structure, and fosters knowledge, skills, and abilities.

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Title: What is Value in Healthcare? Examining How Research Operationalizes Porter's Definition of Value-based Healthcare

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Value-based healthcare (VBHC) is a term synonymous with the pursuit of greater value in healthcare. However, the term "value" lacks conceptual clarity and is reflective of individual, social, and/or economic value. Porter's 2010 seminal VBHC work put the patient at the center of the value equation and has become a central tenet in pursuit of healthcare value. The purpose of our study is to conceptualize how Porter's VBHC is defined, operationalized, and implemented in research.

Approach: A literature search in six academic databases was conducted to identify articles examining VBHC; specifically studies with a Porter-based patient-centric focus to VBHC. Approximately 1,001 articles were retrieved for initial review and, using a consensus-based logic model for inclusion/exclusion, approximately 802 met the inclusion criteria for full text review. Articles were then examined in relation to the following objectives: 1) conceptually map the VBHC literature, 2) identify how Porter's equation is applied, and 3) identify the methodologies used to measure outcomes, costs, and value. Findings were cross-compared and emergent themes organized to Porter facets of value (outcomes, costs, and value).

Results: Our review identified emerging pathways and gaps in how researchers conceptualize and apply Porter's definition of VBHC. First, studies that examine value are applied at varying levels (micro/meso/macro) within the health system. Thus, providing evidence that value is measurable at all levels within a healthcare system. Second, the three facets of Porter's VBHC is robustly found across the literature. However, most studies examine only one or two facets and fail to specify or define all three. Porter's seminal work is cited and applied in research, yet there lacks consistency in the actual use of Porter's definition. Five recommendations for future research using Porter's VBHC include: (1) pre-selection of outcomes/costs, (2) operationalizing outcomes/costs, (3) value framework creation, (4) data collection, and (5) value calculation.

Conclusion: As Porter's work has shifted how we think about value in healthcare, it is imperative that consistency occurs in how Porter's definition is applied. This study is a first step to understand the impact of Porter's seminal VBHC work and suggest future recommendations to ensure consistency in VBHC research.

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Title: Development of an Evaluation Framework for Community-Based Healthcare (CBHC)

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Community-based healthcare (CBHC) is an integrated health system structured around individuals and communities. Through optimal coordination of integrated, team-based primary-care services, CBHC aims to enhance how people are connected to healthcare and services closer to home. Today, CBHC varies in its adoption and execution across Canadian health systems with no specific framework for defining and operationalizing CBHC in Canada. Our research examines the CBHC literature and proposes an evidence-based framework for CBHC operationalization.

Approach: A full literature search in six academic databases was conducted to identify articles examining CBHC; retrieving 2942 articles. A consensus-based logic model for inclusion/exclusion was developed and beta tested for consensus. Articles were screened in three phases—title review, abstract review, and full text review. Thirty-nine articles met the inclusion criteria for full text review. Thirty-five were traditional peer-review articles and four were seminal government reports and/or health services documents. Team members then individually identified emerging themes and cross-compared for team agreement and consensus. Emergent themes were organized across Triple/Quadruple Aims and identified as short or long term CBHC outcomes.

Results: Our review of the CBHC literature establishes ten “best-practices” recommendations to support the operationalization of CBHC programs that have the potential to develop a Canadian pan-provincial framework. Recommendations attained from this review include: the use of Triple/Quadruple Aim (and its facets) as a foundational framework for CBHC; the use of logic models as organizational tools for CBHC programs; and develop adaptable evaluation frameworks and metrics at both system and program level. Furthermore, evaluation metrics and indicators need to be well-defined and specific to the program being evaluated; align measures within structure, process, and outcome for comprehensibility; incorporate the use of both quantitative and qualitative methodology; allow for unintended indicators to emerge; and include knowledge transfer to ensure end-user support and uptake.

Conclusion: Using these recommendations found from the literature review, we have developed and propose a cross-provincial framework to support CBHC initiatives at all levels of a healthcare system. Integration of CBHC will help provincial and local health systems achieve optimal outcomes for their population of service.

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Title: The New Brunswick COPD Health Information Platform (NB-CHIP)

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The NB Institute for Research, Data and Training (NB-IRDT), New Brunswick's provincial administrative data centre, has undertaken a project to develop an integrated health information platform (NB-CHIP) for Chronic Obstructive Pulmonary Disease (COPD). Key objectives of the CHIP initiative are to 1) facilitate the identification and tracking of population level diagnoses of COPD in NB, and 2) support advancement in the management of COPD at the system planning, research, clinical practice and patient levels.

Approach: NB-CHIP combines linkable clinical and administrative data from multiple sources including NB pulmonary function test laboratories (PFT) and provincial government departments. Clinics collect data on everyone tested at a PFT: lung function test results, demographic and socioeconomic information, information on smoking and cessation, height, weight and other fields. Data transfer required data sharing agreements, privacy impact assessments and information disclosure schedules to be negotiated among Provincial Health Authorities, the Department of Health and University of New Brunswick. Since PFT data are not part of the NB electronic health record, lung function data had to be assembled at each clinic.

Results: Clinical data from 2007-2017 have been prepared and transferred to NB-IRDT from all 10 PFT clinics in NB. Validated data on more than 150,000 tests is being linked to data on hospitalizations, physician visits, vital statistics, pharmaceutical data, data from the Canadian Chronic Disease Surveillance System algorithms, data on long term care services and (soon) income support data. A research working group made up of researchers, clinicians, health service administrators and patients is being established to determine and help answer key questions of interest that can now be addressed using the linked NB-CHIP datasets. Of particular interest is the extent to which individuals with COPD have not been diagnosed as such. Results will help inform policy and practice for many aspects of COPD management.

Conclusion: NB-CHIP is a unique and powerful tool to support research on COPD, the second most common reason for hospitalization in NB. Through identification of predictors and outcomes of COPD using validated clinical data, NB-CHIP will contribute to improved disease management in NB and valuable insights on COPD more widely.

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Title: A Novel Normative Approach to Counting GPs – Are We Really THAT Off?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Provincial physician resource planning relies on head counts, physician-population ratios, and full-time equivalents (FTE) using the Canadian Institute for Health Information (CIHI). CIHI FTEs are based on income thresholds. This method assumes all FTEs provide equal levels of service, and does not capture the full breadth of health service activities.

To compare the number of FT and part-time (PT) GPs using the CIHI method to a novel approach using service days, and describe their demographics.

Approach: Anonymized Alberta Health billing data for all FFS GPs from 2011-16 was linked with GP demographic data from the College and Physicians and Surgeons of Alberta. The novel approach defined a FT GP as one who billed 10 visits or more on 90 calendar days within six months. FT vs. PT counts by the two classification methods were compared using Fisher's Exact test. Univariate comparisons were by chi-squared or t-test as appropriate. The relationships between FT status and demographic variables were examined in a logistic regression controlling for zone, rurality, and patient clinical risk group level.

Results: The CIHI method estimates more FT and fewer PT compared to the novel method. CIHI reported 418 ($p < 0.001$), 465 ($p < 0.001$), 549 ($p < 0.001$), 614 ($p < 0.001$) and 622 ($p < 0.001$) more FT GPs between 2011-16 than the novel method ($p < 0.001$). FT GPs were more often located outside of Calgary zone, billed <225%, PT GPs on average, were often male, IMGs, and older. The average number of days worked annually by PT GPs was 146 compared to 247 by FT GPs, (3.04 and 5.14 days per week). CIHI defined PT GPs worked 1.58 days per week (76 days annually) by our method. Contrary to our hypothesis, PT cohorts (<1.7 days/week and > 1.7 but <3.5 days/week) had similar demographics.

Conclusion: CIHI methods underestimate the proportion of PT GPs. PT GPs average nearly 100 fewer service days per year than FT. Demographic and distribution differences exist between PT and FT GPs. 20% of GPs work < 1.7 days per week, PT GPs have similar demographics understanding scope of practice is next.

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Title: High Volume GPs and Health Outcomes in Alberta

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Alberta is considering alternate forms of physician reimbursement, fee-for-service (FFS) predominates. Alberta physicians are among the highest paid. British Columbia caps the number of patients that can be billed for per/day. Few studies have explored the relationship between GP patient volumes and health outcomes under FFS.

To explore the association between High Volume practice (HV) and the risk of Emergency Department (ED) visits and hospitalizations in patients with one or more chronic diseases.

Approach: Anonymized patient GP FFS claims data were linked with provider demographics from the College of Physician and Surgeons of Alberta (2011-16). Using hierarchical logistic regression, we explored the relationship between GP patient volumes and the odds of ED visit and hospitalization for patients within a HV (defined as > 50 patients/day) or non-HV GP panel with one or more of the following: Diabetes (DM), Heart Failure (HF), Ischemic Heart Disease (IHD), Chronic Obstructive Pulmonary Disease (COPD), and Asthma. Panels were calculated using a 4-cut method. Adjusted odds ratios (ORs) and 95% CIs were calculated adjusting for patient and provider characteristics.

Results: Preliminary results suggest that patients with asthma (1.09: 1.04-1.15 p-value 0.009) in HV GP panels were more likely to visit the ED or be admitted to hospital, (1.22: 1.03-1.44 p-value 0.02. No association between HV practice and acute care and hospitalizations was observed for patients with COPD, DM, HF, or IHD.

Conclusion: Alberta is considering physician payment changes that might discourage HV practice, improve quality and lower costs. HV practice may be necessary for access. Early results demonstrate limited association between HV practice and risk of ED visit or hospitalization, except for asthma patients. Analysis is ongoing to better understand these findings.

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Title: Evaluation of the Colonoscopy Quality Management Program Physician Reports

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In December 2017, the Quality Management Partnership, a joint initiative between Cancer Care Ontario and College of Physicians and Surgeons of Ontario, disseminated the first annual Colonoscopy Quality Management Program (QMP) physician reports to over 900 endoscopists in Ontario. These reports provided physicians with specific measures about the quality of their colonoscopy practice in comparison to peers and targets; they are one of the many tools the QMP uses to foster continuous quality improvement.

Approach: Following their release, the Quality Management Partnership undertook an evaluation of the physician reports to assess their impact and to gather feedback from the field to support ongoing improvements. While the evaluation focused on the usability and use of the reports, it also evaluated the resource package that accompanied the reports. We used a mixed methods approach which included an online survey and interviews with report recipients. Interviews focused on physicians' reactions to their report and associated resources, and how the report was used. Analysis drew from Payne and Hysong's model for impact of performance feedback on physician-patient management behaviour.

Results: The survey response rate was 34% (n=245). Approximately half of the survey respondents (54%) agreed their report helped identify performance improvement opportunities and almost half (47%) reported taking action based on their report. Approximately 20% of respondents reported using the accompanying physician learning plan template, and approximately 30% reported using at least one of the resources on the quality improvement resource sheet that was included in the report package. The majority (53%) of survey respondents reported discussing their report with colleagues; additional analysis showed that engaging in conversation about the report was correlated with taking action based on the report. However, some endoscopists were hesitant to discuss their reports as they perceived the content to be private and personal.

Conclusion: The results demonstrate the Colonoscopy QMP Physician Reports are a useful tool in providing performance information to endoscopists and can be utilized by physicians to identify their areas of improvement. This evaluation demonstrates the utility of audit and feedback in colonoscopy in Ontario.

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Title: Making the Invisible Visible: Brain Health Screening Risk Management Program

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Prevalence of cognitive impairment is expected to increase as the population ages. Early identification of mild cognitive impairment (MCI) is essential to delivering evidence-based interventions and helping patients and families living with declining cognition to adopt coping strategies that slow disease progression and improve their quality of life (QOL). The BrainFx Screen is a tablet-based digital tool that detects functional deficits of early cognitive decline that may not be evaluated by other early MCI screens.

Approach: Our study is a concurrent, mixed methods, prospective, multicentre design to evaluate the sensitivity and specificity of the BrainFx Screen against a validated MCI screen in people aged 55 and older. Performance on the BrainFx Screen is evaluated against the results of similarly tested patient cohort populations in the BrainFx Living Brain Bank™ and a digital report includes interventions tailored to address deficits in the seven cognitive domains assessed. Healthcare provider, caregiver and patient perceptions and attitudes towards the technology, caregiver burden, patient anxiety and their decision-making in being willing to be screened will be explored qualitatively.

Results: Over twelve months, approximately 4000 Screen tests will be collected from homecare and four primary care settings. A subset of participants will return once every three months to repeat the BrainFx and validated MCI screens in random counterbalanced order, to a maximum of four visits. We anticipate the BrainFx Screen will demonstrate equivalent sensitivity and specificity to the comparison MCI screen. The benefits of an ecologically valid tool, digital administration, digital reporting, and tailored intervention strategies are anticipated to improve treatment planning for healthcare providers and provide valuable tools to patients and their families to help improve their QOL. Our exploration of older adults' perceptions of screening will influence future recommendations on MCI screening and treatment.

Conclusion: Studies on the value of screening for MCI are limited. Healthcare providers, patients and policy makers will benefit from this clinical and economic assessment of a novel MCI screen. These data also allow us to explore and identify socially constructed barriers to MCI screening and early intervention for cognitive decline.

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Author: Amy Metcalfe

Title: Impact of Provider Payment Structure on Obstetrical Interventions and Outcomes: A Difference-in-Differences Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Traditionally, Canadian physicians provide care on a fee-for-service (FFS) basis; however, this model has been criticized as it incentivizes quantity of care over quality of care. As such, all Canadian provinces/territories have implemented some form of alternative payment plans; however, evaluation of the impact of these policy changes have typically focused on family physicians as opposed to specialists. This study examined the impact of changes in obstetrician payment structure on the use of obstetrical interventions.

Approach: On January 1, 2004, obstetricians working at the Medicine Hat Regional Hospital (MHRH) transitioned from FFS to salary. Alberta Perinatal Health Program data were used to identify deliveries occurring at the MHRH (intervention group) and the Chinook Regional Hospital (CRH; comparison group) from 2002-2005. A difference-in-differences analysis was used to examine the impact of changes in obstetrician payment structure on the use of obstetric interventions. Outcomes before and after the change in obstetrician payment structure were compared, permitting us to calculate the proportion of the changes in outcomes attributable to changes in provider payment mechanisms after controlling for temporal changes.

Results: Between the pre- (2002-2003) and post-intervention period (2004-2005), the cesarean section rate increased significantly from 23.0% (95% CI:21.6-24.6) to 25.2% (95% CI:23.9-26.7) ($p=0.037$) at CRH and from 13.8% (95% CI:12.0-15.9) to 18.6% (95% CI:16.6-20.7) ($p=0.001$) at MHRH. The crude difference in difference estimator was not statistically significant; however, when stratified by provider type, the difference-in-difference estimator demonstrated a 6.0% (95% CI:0.4-11.7) increase in cesarean sections performed by obstetricians at MHRH compared to CRH. Following adjustment for time of day, day of week, and antepartum risk score, the difference-in-difference estimator remained significant (6.0%, 95% CI:0.5-11.5). No significant differences were observed for family physicians. No significant differences were observed in the rates of assisted vaginal delivery, labour induction, or labour augmentation.

Conclusion: Under a FFS model, obstetricians are incentivized to cesarean delivery due to the increased reimbursement rate; however, the increase in cesareans at MHRH following the transition to a salary model is unexpected. This suggests that, in Canada, financial incentives are not a factor that explains the increasing cesarean section rate.

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Author: Crystal Milligan

Title: Health Quality Councils in Canada: A Pan-Canadian Analytical Perspective of Healthcare Quality Improvement

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Countries with high quality healthcare tend to have clear quality improvement (QI) strategies. In the absence of a national QI strategy, there are diverse approaches to implementing QI across Canada. There are five provincial healthcare quality councils, whereas the remaining jurisdictions use other means to initiate QI. This study presents the QI landscape across Canada and highlights the implications that come from the diverse approaches to QI.

Approach: Through a rapid review, we examined the state of play with respect to healthcare quality councils and other QI initiatives in Canada. We reviewed academic and grey literature and conducted interviews with 12 key informants representing 8 jurisdictions. Due to scheduling conflicts, a ninth jurisdiction provided a written response with input from several members of its team. All quality councils contributed during this phase of data collection. Data were analyzed using two primary domains: governance of QI; and core functions (monitoring and evaluation; public reporting; capacity building; setting quality standards; QI initiative implementation; spread and scale-up; policy analyses).

Results: Canadian jurisdictions vary greatly in terms of the governance and organization of QI initiatives. We also found considerable variability when the seven core functions were compared. Differences were partly attributed to inconsistency in definitions and language used to describe QI activities. Our findings highlight an uneven distribution of knowledge, skills and resources in QI across the country. Informant interviews suggested that this variability hinders provincial and territorial ability to translate QI initiatives into improved healthcare for all citizens, as well as to report on QI system performance. Our results suggest that there would be value in leveraging pan-Canadian efforts to facilitate learning and collaboration, and to complement the QI responsibilities of provinces and territories.

Conclusion: Canadian jurisdictions face challenges in integrating QI at all levels of healthcare. A pan-Canadian QI framework with leadership from a pan-Canadian organization could help to align jurisdictions under a common QI vision. This could also facilitate transparent collaboration and alignment, as well as more meaningful performance measurement and management.

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Author: Crystal Milligan

Title: Listening and Learning: A Case for Indigenous Conceptualizations of the Learning Health System

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Evidence suggests that Canadian health systems comprise an inequitable structural framework that inadequately addresses Indigenous peoples' health needs. Still, health systems remain slow to examine the structural barriers to Indigenous peoples' health. The learning health system (LHS) offers a framework to develop health services that incorporate Indigenous knowledges and ways of knowing, and facilitate relationships between health systems and Indigenous clients. As the healthcare community advances its conceptualizations of an LHS, Indigenous perspectives are absent.

Approach: Drawing from a northern Canadian context, this analysis invokes Indigenous and Western theory to identify characteristics of an LHS. Indigenous scholarship is examined in order to enhance our understanding of learning, health, and systems, and how the LHS may add value beyond the sum of these parts. This understanding is contrasted and integrated with Western literatures related to organizational learning and complex adaptive systems, exploring the relationships between the LHS and its clients as a source of learning to guide the LHS toward a more inclusive and wholistic view of health and healthcare.

Results: Results suggest that meaningful engagement with Indigenous knowledge holders is necessary for organizations to learn from Indigenous knowledges. An Indigenous perspective on the interconnectedness of all people and things supports the idea that community knowledge holders can be valued members of the health system; the LHS that learns from Indigenous knowledges may learn to conceive of itself as networks of relationships rather than a distinct entity defined by organizational borders. In an LHS that learns from Indigenous knowledges and ways of knowing, learning may shift from a deficit- to strengths-based view of Indigenous communities, health, and healthcare. A greater range of ways of knowing will give rise to a greater range of ways to act, based on a greater range of evidence, values, and beliefs.

Conclusion: Built on respectful relationships between knowledge holders within and beyond organizational boundaries, the LHS could be developed as a system to improve healthcare in Indigenous communities. Indigenous conceptualizations of the LHS are needed to define what is worth learning, who needs to learn, and who owns what knowledge.

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Author: Stephanie Montesanti

Title: Identifying the Factors Contributing to Improved Transitions in Care and Patient Outcomes

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Transitions in care (TiC) are often discontinuous, and can result in low quality care, and adverse events. In 2016, 9% of patients were readmitted in Alberta within a month of leaving the hospital, the same as the national average, costing the health care system \$1.8 billion (CIHI, 2016). The Alberta Health Services Primary Health Care Integration Network (PHCIN)TM commissioned research to identify interventions to improve TiC and patient outcomes in Alberta.

Approach: A rapid review synthesis and expert interviews were conducted to: (1) examine the current international research literature in TiC; (2) identify the patients that would benefit from improved transitions of care; and (3) examine evidence of high quality interventions to improve TiC for patients. Expert interviews were conducted to understand the health system challenge with respects to TiC. The rapid review consisted of identifying the healthcare practice challenge and the selection of study objectives in collaboration with the health system partner, selecting and appraising studies using the AMSTAR methodological quality tool, and synthesizing peer-reviewed systematic reviews and primary studies.

Results: TiC are typically examined for patients moving between acute, in-hospital care, to primary care settings. Our findings demonstrate that there is variability concerning which patients are at risk of hospital readmission, and which can benefit from interventions. Tools exist for identifying high-risk, complex patients, but success in their use to improve patient outcomes has been of questionable effectiveness, and limited to specific hospital centers. Multi-component interventions that support patients in managing changes in their health status from one setting to the next are most effective. Hospital systems documented in literature to have been successful in sustainable implementation demonstrated the necessity for broad health system support - positive organizational culture; deliberate long-term planning; and an engaged leadership, with accountable implementation teams.

Conclusion: TiC consist of numerous components, across all care settings, that must be effective in order to deliver high quality care. This review was conducted to support provincial decision-making and planning for a TiC policy strategy.

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Author: Elaine Moody

Title: Educating for Registered Nurse prescribing in Canada: Results from an environmental scan

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Registered Nurse (RN) prescribing is a means of optimizing RN scope of practice and could contribute to the sustainability and effectiveness of the healthcare system. As Nova Scotia prepares to implement RN prescribing, it is necessary to consider how to ensure appropriate knowledge and skill development for RNs to safely and competently prescribe medication. We will outline the findings of an environmental scan exploring the education of nurses to take on a prescribing role.

Approach: We conducted an environmental scan explored national and international literature reporting educational practices for preparing RNs for a prescribing role. The research question was: What can we learn from countries with RN prescribing about the education programs needed to support competence development for this role? Relevant published literature was identified through a comprehensive search of databases including CINAHL, MedLine, and PsycInfo. The grey literature search included websites of countries with similar healthcare systems as Canada, particularly those noted in published sources, and a review of the Canadian provincial nursing regulatory body websites.

Results: We reviewed the regulation of RN prescribing in the United Kingdom (UK), New Zealand and Ireland. These countries require course work after initial registration, as well as a prerequisite minimum amount of practice hours in the clinical area where the RN plans to prescribe. Course content includes theory as well as supervised clinical hours. The majority of the published literature is from the UK and highlights the importance of pharmacological content, and clinical experiences to contextualize learning. As the regulation of RN prescribing in Canada is so new, and still evolving, there are various approaches to the preparation of RNs to prescribe across Canada. Many provinces require completion of specific course work after initial registration, however, they differ in the level of education programming required.

Conclusion: This environmental scan will inform the development of RN prescribing regulation and education in Canada. Further knowledge development will enable the integration of RN prescribing in the Canada to improve access to healthcare, and better support complex population health needs.

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Author: Kelly J. Mrklas

Title: An Examination of Integrated Knowledge Translation Research: History, Reformulation, Evolution and Comparison with Close Relations

Type of Abstract: Oral Presentation: Standard

Background: Integrated knowledge translation research (IKTR) is a recently emerging concept, coined in the mid 2000s by Graham et al. IKTR involves purposeful, collaborative involvement of researchers and knowledge users across the research process, to increase the uptake/use of findings. IKTR bears strong similarity to other related approaches (i.e., engaged scholarship, Mode 2, knowledge co-production, co-creation, participatory research, human centred design, collaborative-participatory design). A close examination of its historical origins, integration into national funding agency guidance and process, presence as an underlying assumption of the Knowledge to Action framework (K2A), and its context provide important insights into the nature of IKTR and its future applications.

Objectives: To critically review and compare characteristics (e.g., historical origins, epistemological, methodological, measurement, impact contribution/attribution characteristics, developmental implications) among IKTR and related approaches and to examine their influence on current conceptualizations, and where possible, future applications.

Methods: A focused search for studies pertaining to IKTR, linkage and exchange, and related concepts was undertaken to create an historical timeline, establish source documents, clarify how and when concepts emerged, and how they were subsequently applied and changed over time. Findings were summarized and tabulated to create a comprehensive current state.

Results: The historical timeline and adoption of IKTR within national health research funding agency guidance influenced its conceptual evolution. IKTR was broader in scope and involved more than the initial philosophy of linkage and exchange. IKTR became a refined, emerging practice involving very specific ends across the entire research process (e.g., improvement of health outcomes, healthcare services, products and system). IKTR differs in scholarly ways from its close relations, but as with other similar approaches, manifests similarly in practice. Evaluative efforts and comparative work with other approaches further delineate IKTR as a key research approach and a concept whose evidence base is emergent.

Conclusions: As participatory research methods gain widespread popularity, understanding IKTR, and the conditions under which it works best, is essential. An in-depth appraisal of historical and conceptual origins, application context and ultimate ends, demonstrate why IKTR is a novel approach that is both similar in practice, yet conceptually distinct, from its closest relations.

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Title: The Case for a Knowledge Translation Framework as a Comprehensive Strategy for Health Research Impact Assessment

Type of Abstract: Oral Presentation: Standard

Background: Health research impact assessment has developed rapidly over the last 20 years. Despite its evolution, challenges and gaps, very few attempts to connect health research impact assessment (HRIA) with knowledge translation (KT) approaches to lever their similarities and strengths, exist. The Knowledge to Action Framework (K2A) (Graham et al) is a well-validated, flexible KT framework that can accommodate (HRIA) needs, and help remedy some of its most serious flaws. This study contributes to health research impact assessment through the identification of key challenges and opportunities, using a KT lens.

Objectives: To review key reviews (systematic, realist, narrative, focused literature, among others) undertaken between 1990 and 2018 and identify KT approaches. To document the historical and developmental underpinnings, purpose and approach, strengths and limitations of a K2A impact assessment approach, and to explore how these features may help address current challenges and opportunities in HRIA.

Methods: A focused search for reviews was undertaken to identify studies published from 1990-2018 that describe research impact assessment frameworks/models. Reviews were assessed to identify and describe current challenges and opportunities, and to document the inclusion of KT/ implementation frameworks/methods as HRIA approaches. Findings related to the historical development, underpinnings, purpose, approach, key strengths and weaknesses were extracted for any relevant approaches. A detailed examination of K2A was undertaken to explore how to best fill gaps, address challenges and lever opportunities.

Results: Twelve published reviews and a very few KT/implementation frameworks were identified. A review of the history, underpinnings, purpose, approach, key strengths and weaknesses demonstrated alignments to help overcome linearity, attribution, double counting, knowledge user participation, resource and time costs, evaluative burden, and other challenges. Review of the K2A revealed opportunities for integration, process efficiency, potential reductions in cost/resource burden, contribution and attribution, and potential opportunities to identify and understand the “how and why” of impact.

Conclusions: A focused review of KT framework use in health research impact assessment can help identify and resolve challenges, and can inform the development of novel strategies. Deliberate linkage of health research impact assessment and KT/implementation frameworks/models has potential for quickly advancing this field.

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Author: Megan Muller

Title: Indigenous Community to Care Provider Dialogues: Participatory Action Research to inform Culturally Safe Health Services

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Discrimination and culturally inappropriate practices within healthcare delivery are demonstrated to be a key factor leading to the health equity gap faced by Indigenous Peoples in Canada (Browne et. al, 2000; Reading and Wien, 2013). In partnership with the Nuuchahnulth Tribal Council and Saint Elizabeth Research Centre, we have developed a participatory-research-to-action project to enhance culturally safe care at the interface between transferred Indigenous health services and provincial/regional health care providers on Vancouver Island.

Approach: This project results from extensive planning with participating First Nations and the NTC. Between February to April 2019, the research team will utilize an Indigenous storywork and brokered dialogue methodology to facilitate conversations between community members and HPCs about the impact of culturally unsafe care delivery on health outcomes. This methodology has been proven effective for addressing controversial health issues (Parsons & Lavery 2012). Patient health care narratives will be recorded and shared with local HCPs; the HCP's responses are then recorded and shared with patients and community members. This will be repeated until common themes and opportunities emerge.

Results: We anticipate an increase in mutual understanding, in terms of awareness among HPCs of systemic practices that almost invisibly perpetuate oppression and racism, as well as greater knowledge and understanding among community members about determining their health care. This dialogue is expected to reveal how discrimination manifests within the health system, how this is experienced by patients, and how it impacts health outcomes and ability to pursue a recommended course of treatment. The process of dialogue and co-learning will inform the collaborative development of resources and/or interventions to enhance culturally safe practice and collaboration across health systems.

Conclusion: This presentation will share preliminary findings and reflections on the participatory-research-to-action process. These findings will provide insight useful for healthcare practitioners and policymakers, revealing the necessity of culturally safe practice from the experiences of First Nations patients and opportunities for co-developing processes to increase cultural safety within health care delivery.

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Author: Nancy Murray

Title: Strengthening Local Public Health Unit and Local Integrated Health Network Collaborations for Integrated Health System Planning Informed by a Population Health Approach

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Ontario's Patients First Act requires public health units and Local Health Integration Networks (LHINs) to collaborate towards integrated health services planning informed by a population health approach. Drawing from our study, we present strategies and tools to support successful collaboration between public health units and LHINs to address this aim.

Approach: This mixed methods study (QUAL-quant) involved interviews and focus groups conducted with board members, senior and middle management, and staff employed in Public Health Units, LHINs, government, relevant agencies, as well as key informants from other Canadian provinces (n=68). Focus groups and interviews were recorded, transcribed, and analyzed supported by NVivo 11. Building on qualitative results, an online survey was developed, pretested and revised to obtain broader input from ON stakeholders. Over 300 Ontario participants from LHINs, public health units, government and relevant ON organizations responded. Data were analyzed using descriptive statistics and content analysis (open-ended questions).

Results: Public Health Units and LHINs recognize the importance of health system planning through a population health lens. Both already are working together in partnerships through leadership councils, working groups, and local program planning to monitor, analyze, report, and share data to determine priority community needs. Results provide insight into intrapersonal, interpersonal, organizational, and systemic factors that promote successful Public Health Unit-LHIN collaboration. Clarifying expectations, shared accountability, and funding supports are critical for successful Public Health Unit-LHIN collaborations. Survey results build on qualitative data to identify key strategies and tools that can help overcome barriers and foster collaborations. Findings prioritize categories of population health and health system data, indicators, and information that could potentially strengthen collaborations and offer solutions to overcome Public Health Unit-LHIN collaboration challenges.

Conclusion: Given the increasing responsibilities of regional health authorities and public health units to address population health needs, this research informs strategies to conduct integrated health system planning to best meet the unique needs of local populations. Results can inform other similar collaborations to improve integrated population health system planning.

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Title: High Users of Primary Care Services Among Canadian Armed Forces Veterans

Type of Abstract: Oral Presentation: Standard

Background and Objectives: High users of healthcare are a small proportion of the population who account for a disproportionately large amount of costs and utilization. High users of healthcare among Canadian Armed Forces (CAF) Veterans were examined using Veterans Affairs Canada (VAC) health expenditures, but they have not been examined in the provincial health care systems. This study will examine the well-being characteristics associated with high use of primary healthcare services among CAF Veterans.

Approach: Analysis was conducted on the 2016 Life After Service Survey, a nationally representative survey of over 56,000 CAF Regular Force Veterans containing self-reported data on health and determinants of health. Characteristics of high users of primary healthcare services, measured as 10 or more self-reported family doctor visits in the previous 12 months, were compared with the rest of the sample, the non-high user group. Independent variables were selected from VAC's Well-being Conceptual Framework, which examines well-being in seven subordinate domains. Bivariate and multiple logistic regression modeling will identify the well-being indicators associated with being a high user of primary care.

Results: Bivariate analysis revealed that being a high user was significantly associated with female sex (Odds Ratio (OR)=2.8), multiple chronic physical health conditions (2 OR=2.0; 3+ OR=3.9), moderate (OR=2.3) and severe (OR=10.1) mental health problems, high disability (OR=12.1), being unemployed (OR=2.6) or not in the labour force (OR=3.3), being dissatisfied with main activity (OR=6.5) and finances (OR=2.7), suicidal ideation (OR=4.2), low social support (OR=2.8), weak sense of community belonging (OR=2.5), and a difficult adjustment to civilian life (OR=3.2). High users of primary care were also more likely to use other healthcare services such as other medical specialists, mental health professionals, hospitalizations, and home care. Subsequently, multivariate analysis will reveal the most significant indicators associated with high use after adjusting for others.

Conclusion: The results from this research will allow for the identification and characterization of high users of primary healthcare services among CAF Veterans with implications for informing healthcare policy that will ensure that the right Veteran receives the right care at the right time.

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Author: Joanna Nemis-White

Title: Can a Web Tool Help Primary Care Providers Meet Canadian Guidelines for Atrial Fibrillation Management?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Atrial Fibrillation (AF), a common chronic disease, is associated with increased mortality, morbidity and impaired quality of life. Primary care providers (PCPs) face challenges with AF prevention, diagnosis and treatment. Integrated Management Program Advancing Community Treatment of AF (IMPACT-AF) was a cluster randomised trial that tested the efficacy of a web-based decision tool for the management of AF in Nova Scotia primary care. This presentation examines practice patterns at baseline and 12-months versus Canadian guidelines.

Approach: IMPACT-AF was conducted between September 2014 – January 2018. A broad stakeholder committee (Nova Scotia (NS) Health Authority and Department of Health and Wellness representatives, researchers, academics, front-line providers and patient advocates) provided study guidance. Canadian guidelines and AF management best practices were computerized into a web-based clinical decision support system (CDSS). Recruited PCP clinics were randomized 1:1 (usual care (UC) : intervention (CDSS)). PCPs assigned to the CDSS were trained and requested to use the intervention for 12-months. Post-consent, study personnel abstracted patient charts for AF-related measures at baseline, and 12 months, with baseline data populated into the CDSS.

Results: 203 PCPs and 1145 of their patients participated in the study, approximately 25% of eligible PCPs and 12% of the estimated number of AF patients. (PCPs: 104, CDSS; 99, UC; Patients: 597, CDSS; 548, UC).

At baseline, for those aged ≥ 65 years or at increased stroke risk (according to CHA₂DS₂-VASc), no antithrombotic treatment was observed in 20% UC and 12% CDSS patients respectively. Overall, 61% UC and 65% CDSS patients received appropriate treatment as per the Canadian Cardiovascular Society AF algorithm for stroke risk management (odds ratio (OR)=1.17 (0.92, 1.49), $p=0.198$). At 12 months, appropriate treatment improved in both arms: 68% UC, 71% CDSS (OR=1.18 (0.92, 1.52), $p=0.195$). No significant difference in clinical outcomes was observed at 12 months between study groups.

Conclusion: IMPACT-AF revealed some care gaps in AF management in NS, however, overall, appropriate care was higher than anticipated. User feedback suggests the CDSS, external to PCP EMRs, was not user-friendly and some prematurely stopped using the tool before study end. Health-related decision support tools should be evaluated before widespread implementation.

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Title: Healthcare Professional Workplace Engagement: Trends from the Health Care in Canada Survey 2013-2018

Type of Abstract: Oral Presentation: Standard

Background and Objectives: With a vision to inform and influence Canadian health policy and care, thirteen iterations of the Health Care in Canada (HCIC) survey have been implemented since 1998. Nationally representative samples of the Canadian public and health professionals are polled regarding healthcare topics such as: access and quality of care; medication adherence; personal health; professional engagement; eHealth; future innovations. Trends across the 2013, 2016 and 2018 surveys regarding workplace engagement of healthcare professionals will be presented.

Approach: A broad spectrum of institutional members from national associations and organizations collaborate on the HCIC survey design and knowledge translation activities. POLLARA have provided leadership of question formatting, random sampling, data collection and collation for all surveys.

Doctors, nurses, pharmacists and administrators were surveyed in 2013, 2016 and 2018. Other health providers (dietitians, occupational therapists, physical therapists, psychologists and social workers) were added in 2016. Professionals were asked about their level of job engagement using a 10 point scale where 1=very poor, i.e., with long-term exhaustion, cynicism and inefficiency, and, 10=excellent, i.e., with high energy, involvement and performance efficacy.

Results: In 2018, 77% pharmacists, 79% doctors, 82% nurses, 83% other providers and 92% administrators reported 'good' or 'very good' job engagement. Engagement has been stable over time for nurses and pharmacists, while doctors and other providers have declined. Although administrators' engagement increased over time, the 'very good' category decreased from 50% to 23%.

Increased workload was the highest contributing factor for job disengagement in 2013, ranking first for all (29-49%), and remained the highest for nurses (40%) and administrators (52%) in 2018. Increased stress was commonly cited over surveys. Workplace structure (i.e., relentless change) has increased for administrators: 18% in 2013, 45% in 2018. Functionally disorganized workplaces, increased stress and lack of a meaningful voice were also cited more often in 2018 than previously.

Conclusion: Job engagement of health professionals is crucial for a successful healthcare system. The trend of decreased engagement by health providers is alarming and necessitates further investigation. Constant change and reorganization within workplaces are taking a toll on Canada's healthcare professionals, and therefore, in the healthcare system as a whole.

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ID: 292

Author: Ryan Ng

Title: The creation of the Chronic Disease Population Risk Tool (CDPoRT): a population health tool for predicting chronic disease incidence

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Public health officials and health policy makers require evidence to make informed decisions regarding chronic disease prevention and chronic disease management strategies. One important piece of information is the projected incidence of chronic disease in their jurisdiction. To meet this need, we created the Chronic Disease Population Risk Tool (CDPoRT), a population-based tool that predicts the incidence of major chronic diseases – cardiovascular disease, chronic obstructive pulmonary disease, diabetes and lung cancer – simultaneously.

Approach: Six cycles of the Canadian Community Health Survey were linked to Ontario health administrative data to predict the incidence of four major chronic diseases over ten years. Sixteen potential predictors consisting of modifiable lifestyle risk factors, sociodemographic factors and other health-related factors were identified. Weibull regression models were used to develop sex-specific prediction models. Various models were developed and evaluated based on considerations for overall predictive accuracy (Brier score), discrimination (c-statistic) and calibration (calibration-in-the-large, calibration slope). For each sex, the best-performing model was selected as the basis for CDPoRT using several validation techniques including split-set validation.

Results: Split-set validation was used to divide the cohort randomly into a development cohort of 83,167 individuals (46,627 females; 36,540 males) and validation cohort of 25,580 individuals (19,729 females; 15,851 males). The best-performing female and male models had alcohol, smoking, fruit and vegetable consumption, age, ethnicity, asthma, BMI, high blood pressure and self-rated health as their predictors. In terms of predictive performance, the female model performed well during development and validation in terms of the Brier score (development: 0.087; validation: 0.119), c-statistic (0.779; 0.778), calibration-in-the-large (0; -0.005) and calibration slope (1; 0.994). The male model also performed well during development and validation in terms of the Brier score (0.091; 0.091), c-statistic (0.783; 0.769), calibration-in-the-large (0; -0.003) and calibration slope (1; 0.866).

Conclusion: We were able to successfully develop and validate CDPoRT for use in Ontario. The next step is to understand the generalizability of CDPoRT by performing external validation using CCHS data linked to health administrative data from Manitoba.

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Author: Meghan O'Neill

Title: Effectiveness of Population Targeted Strategies to Prevent High Resource Users: A Modelling Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: A majority of health care spending is concentrated among a small proportion of the population. In the interest of health system sustainability, greater attention has been placed on managing high-risk groups, however little research has focused on how interventions targeted at preventing high resource users (HRUs) impacts spending at the population level. Our objective was to model the effectiveness of targeted prevention strategies for HRUs using a validated High Resource User Population Risk Tool (HRUPoRT).

Approach: We applied a validated population-based risk tool (HRUPoRT) for predicting HRU of the health system in Ontario, Canada, among adults in the 2013/2014 Canadian Community Health Survey (N = 39,140) and estimated the 5-year HRU risk to 2018/2019. Direct health care spending was calculated using a person-centered costing methodology developed at ICES that encompasses spending covered by the Ontario Health Insurance Plan. We estimated how many HRUs could be prevented and the associated health care savings from targeting high risk groups for prevention (i.e. 10% risk reduction). HRUPoRT was validated in Ontario with good discrimination (c-statistic=0.82) and calibration (Hosmer-Lemeshow $\chi^2=18.71$).

Results: HRUPoRT estimated 758,184 new HRU cases in Ontario between 2013/2014 to 2018/2019, resulting in \$16.22 billion in health care costs. We modelled the potential effectiveness of three different HRU prevention strategies over a 5-year period. The approach that had the largest reduction in HRUs was targeting individuals with any one health risk behaviour (heavy alcohol consumption, overweight/obesity, tobacco use, physical inactivity), resulting in 414,000 HRU averted and \$8.86 billion in health care savings. This approach was followed by targeting individuals with any two health risk behaviours (179,000 HRU averted and \$3.84 billion in health care savings), and targeting individuals 65+ with multimorbidity (77,000 HRU averted and \$2.50 billion in health care savings).

Conclusion: This study demonstrates an innovative policy tool that provides a mechanism to estimate population benefit using routinely collected, self-reported risk factor surveillance data. This research highlights the population impact of risk factors associated with becoming a HRU and provides empirical evidence to support HRU prevention strategies at the community level.

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Title: Unintended effects of the "Barrette" reform on the disclosure of lobbying activities in the health and social services sector in Quebec: an interrupted time series study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In Quebec, since the enactment of Bill-10 in 2015 that replaced RHAs by large health and social service centres, lobbyists are now forced by law to disclose their activities in the provincial lobbying registry when they target local health care and social services institutions. Interestingly, this change is an unintended effect of Bill-10 and was unwanted by the government. This study examines the effect of this natural intervention on the volume of reported lobbying activities.

Approach: Design: interrupted time series

Setting: Quebec

Population: all disclosed lobbying mandates targeting institutions in health and social services sector.

Data: Quebec Lobbying Registry. Period covered: December 1, 2002 to May 16, 2017. Observation unit: a two-week period beginning on the first or the 16th day of the month. The database contains 348 observations (i.e., two-week periods).

Outcomes: (1) number of active mandates and (2) number of registered lobbyists

Analyses: linear regressions (EPOC approach) (2 years before and after) and exponential regressions (full period). All regressions control for autocorrelation. Subgroup analyses were performed for types of lobbyists and types of mandates.

Results: Since 2002, the number of lobbying mandates disclosed on the registry targeting institutions in the health and social services sector has grown exponentially. Considering both the full period and two years before and after, the reform has had a positive effect on the growth in the number of mandates disclosed by lobbying consultants, but had no effect on the growth rate of the number of mandates disclosed by corporate lobbyists. After the reform, an increase of 22.7 lobbyists per two-week period pushed the annual growth in the number of lobbyists to 950. The reform had a strong positive effect on the growth of mandates aimed at influencing the granting of a permit, license, certificate or other authorization.

Conclusion: The Barrette reform was not intended to increase the transparency of lobbying activities in the health sector. Our findings suggest that a mistake made by the government in a core component of its reform (i.e., increased nomination powers) had a positive externality by making public more lobbying activities.

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Author: Dimitra Panagiotoglou

Title: Evaluating the effects of British Columbia's new Supervised Consumption and Overdose Prevention Sites

Type of Abstract: Oral Presentation: Standard

Background and Objectives: To address the rapidly escalating rates of opioid-related overdose events and deaths occurring in British Columbia, the province began operating overdose prevention (OPSs) and supervised consumption (SCSs) sites. The purpose of this study is to conduct a comprehensive evaluation of the effects of the newly implemented OPSs and SCSs on opioid overdose related health outcomes and health service consumption, using data from the BC Provincial Overdose Cohort.

Approach: The Overdose Cohort database contains every confirmed and suspected opioid overdose that occurred between January 2015 and December 2017. The population-level effects of the intervention will be estimated using interrupted time series with segmented regression. Cases are events that occurred within local health authorities (LHA) that began operating an OPS or SCS during the study period. Controls are events that occurred outside LHAs that offer the intervention, propensity score matched to cases. In communities that opened more than one site, intervention time will be set to the operation date of the first new site.

Results: Since December 2016, 26 OPSs and SCSs have been operating across the province. This includes the province's first mobile units in Kelowna and Kamloops, 3 OPSs in the Greater Victoria area, 5 OPSs and one new SCS in Vancouver's Downtown Eastside, and 2 OPSs and 2 SCSs in Surrey. Combined, these sites report over 50,000 client visits and hundreds of overdose events reversed per month. To date, there have been no overdose fatalities on site. The results of the analysis are pending and will be available by presentation date May 2019.

Conclusion: This is a timely and comprehensive evaluation of the effects of OPSs and SCSs in a hard-hit Canadian setting.

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Author: Thivaher Paramsothy

Title: Assessing quality of care of heart failure (HF) in primary care in Ontario and the impact of financial incentives on care quality (ACCEPT-MORE Phase 3)

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Heart failure (HF) is the leading cause of hospital admission in Canada, and patients with HF have longer hospital stays, resulting in heavy healthcare costs. Significantly, most HF admissions are due to exacerbated symptoms which may be preventable with quality primary care. We sought to identify HF quality indicators in primary care, assess the current state of HF care by family physicians in Ontario, and evaluate whether the physician incentive in Ontario improves HF care.

Approach: A comprehensive search strategy was conducted in MEDLINE to identify and select HF-related quality indicators and primary care clinical practice guidelines. University of Toronto Practice Based Research Network (UTOPIAN) will be used to identify patients with HF and assess the current state of practice for managing Ontario patients with HF using the quality indicators selected. Additional analyses will stratify patients with HF by whether or not the services they received are associated with Ontario's physician incentive to determine if the use of the incentive is correlated with better performance on quality indicators.

Results: A comprehensive search strategy retrieved a total of 94 articles, of which 13 were selected. In addition, 81 grey literature sources were reviewed, of which 20 were selected. From both sources, we retrieved 79 quality indicators relevant to heart failure management in primary care. We anticipate that the quality of HF care in primary care will have several areas needing improvement. In addition, we anticipate Ontario's physician incentive had little or no impact on the quality of HF care, consistent with the literature on other similar financial incentives.

Conclusion: This study will enhance understanding of the current performance of HF care amongst family physicians in Ontario and identify possible areas of improvement. Using the primary care quality indicators identified, we can evaluate the effectiveness of the incentive for HF management in Ontario to inform future policy.

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Title: Accountable Care Organizations and the Canadian Context

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Improving care integration across sectors is a policy priority in Canada. Since the establishment of Accountable Care Organizations (ACO) in the United States (US), there has been interest in the potential of ACOs to be implemented in Canada to improve integration. Despite this, there is limited understanding of the core attributes of ACOs, the potential for them to be applied in Canada, and the extent to which ACO-like models are being adopted in Canadian jurisdictions.

Approach: We conducted an open search to identify current literature reviews on ACOs. In addition, we searched Medline (Ovid) using the exploded Medical Subject Heading (MeSH) term “Accountable Care Organizations” using the “reviews only” filter and combining search terms using the “AND” Boolean operator. We also searched the Data & Reports section of the Centers for Medicare and Medicaid Services (CMS) website (cms.gov) using the term “accountable care organization(s)”. Finally, we scanned government websites of Canadian jurisdictions for current initiatives that aim to increase provider accountability and improve integration.

Results: ACO models in the US vary considerably. Yet, all engage in a shared saving program, have at minimum 5,000 beneficiaries assigned to them for a span of three years, and are responsible for the total cost of care. They are intended to embed care coordination, electronic medical records, and information systems and achieve Triple Aim outcomes.

In Canada there are recent system reforms that share some features of ACOs. We identified nine models including regional coordination of care (Quebec), physician remuneration reforms (Alberta and BC), and financial incentives for provision of chronic disease management services (BC). Only initiatives in Ontario (Health Links, Integrated Comprehensive Care Project) and Alberta (primary care networks) shared two or more of ACO features. None adopt a shared savings program.

Conclusion: A major hurdle for implementing ACO models in Canada is around shared savings. The question remains are they necessary, and if so, what would it take to move to similar models in Canada. Additionally, Canadian jurisdictions continue to face challenges around electronic health records and care coordination that bridges the divide between sectors.

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Author: Juan-Nicolás Peña-Sánchez

Title: A framework and research initiative to study inflammatory bowel disease among Indigenous peoples in Saskatchewan

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Inflammatory Bowel Disease (IBD) is a chronic condition with significant life-threatening disease-related complications and reductions in quality of life if left untreated. Despite available research about IBD in the general population, there is limited-to-no evidence about IBD among Indigenous peoples in Canada. Based on the patient-oriented research principles and partnerships with Indigenous patients with IBD, we aimed to define a collaborative framework, estimate the epidemiology, and explore perceptions of IBD among Indigenous people in Saskatchewan.

Approach: This study began when Indigenous patients with IBD shared their experiences with research team members. A mixed methodology was defined to explore the epidemiology and perception of IBD among indigenous people. We will use administrative health data for the province of Saskatchewan to estimate the prevalence of Indigenous peoples diagnosed with IBD, as well as the incidence rate of IBD among indigenous individuals in Saskatchewan. The second part of the study will use a photovoice methodology to obtain “the voices” of Indigenous peoples with IBD, encouraging self-interpretation of pictures, engaging their communities, and empowering them with the study findings.

Results: An interdisciplinary research team was formed including Indigenous patient and family advisors (IPFAs, Indigenous patients living with IBD and parents of an Indigenous person with IBD), a gastroenterologist, decision makers, and Indigenous and non-Indigenous researchers. This research team defined as its goal to raise awareness of IBD among Indigenous peoples and advocate for better healthcare and well-being by providing evidence of IBD among Indigenous peoples living with IBD in Saskatchewan. The IPFAs in the team play a critical role in the project sharing their experiences and defining the directions of the project. The research questions, methodology, and study outcomes were collaboratively defined with IPFAs. Estimates of the prevalence and incidence of IBD among Indigenous people will be available in spring 2019.

Conclusion: This ground-breaking patient-initiated and -driven project is the first stage to improve health among Indigenous peoples living with IBD in Saskatchewan. This project will generate community-engaged knowledge and experiences to inform the development of an Indigenous IBD framework which could promote better and knowledge-based healthcare for Indigenous people with IBD.

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ID: 198

Author: Wanda Phillips-Beck

Title: First Nations' readmissions ending in death: what do we know?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: This project is one of several studies within a program of research entitled Innovation Transforming Community-based Primary Healthcare (CBPHC) in First Nation and rural/remote communities of Manitoba. Our objective was to understand, and support initiatives aimed at improving CBPHC in Manitoba First Nations (FN) where inequities in access to responsive care have been well documented. A potential sentinel indicator of differential access to health care is the rate of readmission ending in death.

Approach: We focused on readmissions for Ambulatory Care Sensitive Conditions (ACSC) ending in death. In partnership between the University of Manitoba and the First Nation Health and Social Secretariat of Manitoba and eight FN in Manitoba, we conducted analyses of Manitoba-based 30-day hospital readmission rates for ACSC which resulted in the death of the patient, using health administration data at the Manitoba Centre for Health Policy from 1986-2016. The data was adjusted for age, sex, and socio-economic status (SES).

Results: After eliminating non-urgent and palliative care readmissions, 1,728 (.57%) of the 362,256 hospital admissions were for ACSC that ended in death in Manitoba over the 20-year period. Of these ACSC readmissions, 50 (2.89%) were for acute; 1642 (95.02%) for chronic; 8 (0.46%) were for vaccine-preventable and 28 (1.62%) were for mental health related conditions. FN represented 11 (5.61%) of the acute; 182 (92.86%) chronic and 1.53% of the vaccine preventable 28 (1.62%) mental health condition related deaths. We found rates of readmissions ending in death are slowly increasing and are increasingly more dramatically among northern and larger FN's not affiliated with Tribal Councils. Readmissions ending in death are occurring at disproportionately higher rates among First Nations in all RHA's.

Conclusion: The Truth and Reconciliation of Canada Calls to Action indicate that we must close measurable gaps in health outcomes for First Nation people in Canada. Inequitable health care and jurisdictional ambiguity must therefore be addressed. Access to primary healthcare in all First Nations is key to reducing readmission rates.

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ID: 273

Author: Wanda Phillips-Beck

Title: First Nation Perspectives to Transform Community-based Primary Healthcare (CBPHC) in First Nation communities in Manitoba.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Models of CBPHC and health care policies currently operating in Manitoba First Nations (FN) are rooted in oppressive colonial policies and developed without appropriate or prior engagement with FN's. Our objective is to understand the impact of current governance structures on primary care and learn what alternative models are possible.

Approach: This qualitative study is one five within a larger program of research entitled Innovation Transforming Community-based Primary Healthcare (CBPHC) in First Nation and rural/remote communities of Manitoba, a partnership between the University of Manitoba, the First Nation Health and Social Secretariat of Manitoba and 8 Manitoba FN's. Local research assistants were employed by their respective communities to conduct interviews/listen to stories with community members. These interviews were transcribed and NVivo software was used to organize into themes. All summary data was presented back to community who had an opportunity to validate and participate in the interpretation of results.

Results: Key challenges to CBPHC included: funding models, jurisdictional complexities, imposed policies with limited funding, lack of cooperation among healthcare services and an acute approach to healthcare. FNs want a seamless way of providing CBPHC with improved funding at the discretion of FN communities that fosters continued primary healthcare innovation. A new concept introduced by respondents that resonated throughout the study was the implementation of "borderless healthcare" where the current governance silos are broken down. Ultimately, FN communities in Manitoba are advocating for an integrated model of care, with flexible and supportive funding negotiated by the parties according to the FNs inherent right to self-determination and need to address inherent discrimination that prescribes different healthcare models for FN north and south, and further, with non-FN's.

Conclusion: Primary healthcare approaches that promote FN inherent rights to self-determination and implementing a "borderless healthcare system" is called for by the First Nations participating in this project, in alignment with the Truth and Reconciliation of Canada Calls to Action to recognize and implement the health-care rights of people.

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ID: 322

Author: Wanda Phillips-Beck

Title: The Essential Place of First Nations Traditional Health in the Health System: Issues, Opportunities and Recommendations of First Nations in Manitoba

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The aim of this inquiry was to explore positioning traditional medicine in primary healthcare, elaborate on areas of opportunity for collaboration, and highlight possible impact on both traditional and western medicine, the "two great healing traditions"¹.

1. Canada. Royal Commission on Aboriginal Peoples. Report of the Royal Commission on Aboriginal Peoples. Vol. 3: Gathering Strength, Chapter 3, Royal Commission on Aboriginal People, 1996.

Approach: This qualitative study is one five research projects within a larger program of research entitled Innovation Transforming Community-based Primary Healthcare (CBPHC) in First Nation and rural/remote communities of Manitoba, a partnership between the University of Manitoba, the First Nation Health and Social Secretariat of Manitoba and 8 Manitoba FN's. In-depth interviews were conducted including participants from eight First Nations communities. Grounded theory informed data analysis using Nvivo software.

Results: We found that traditional healing is widely used in FN communities as a parallel system of health care and prevention, yet this practice is not commonly recognized by the mainstream health system. First Nations in Manitoba call for increased recognition and respect, adequate funding, and inclusion of traditional healing and healers in a newly envisioned PHC system. They contend that Elders/healers need to be meaningfully involved in the delivery of primary healthcare and that traditional health science and healing practices are key to transforming community wellness.

Conclusion: Centering traditional healing and healers in the healthcare system is critical for addressing the intergenerational impact of assimilative policies, as asserted in The Truth and Reconciliation Commission of Canada's Calls to Action. While some support is currently available for individuals seeking traditional healing, transformation is required on a system level.

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ID: 480

Author: Erin Pichora

Title: Measuring health inequalities to inform action: demonstration of a web-based toolkit developed by the Canadian Institute for Health Information

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Measuring inequalities across population subgroups is a critical step towards informing action on health equity. As health systems and organizations work toward achieving health equity, reliable and relevant measurement of health inequalities is essential. CIHI released 'Measuring Health Inequalities: A Toolkit' in October 2018 to support analysts and researchers with planning, analyzing and reporting on health inequalities. We also developed a series of online courses to complement and facilitate the use of the toolkit.

Approach: Building on an environmental scan of international and national best practices for measuring health inequalities, we conducted stakeholder engagement activities to tailor the contents and format of the toolkit to user needs. These included: a needs assessment, subject matter experts consultations and a pilot test. For the online courses, we created an introductory video, followed by 3 courses that use case-based knowledge checks related to each of the 3 toolkit phases - planning, analyzing and reporting. Moving forward, we will evaluate the use of the toolkit through a variety of data collection methods (e.g., web metrics, stakeholder survey, case studies).

Results: Key toolkit resources include: standard equity stratifier definitions, an inventory of equity stratifiers available in CIHI and Statistics Canada databases, a guide for area-level health inequalities measurement using postal code conversion, SAS macros for calculating rates and summary measures, and a whiteboard video explaining how to interpret health inequalities to identify areas of action. By March 2019, the first three of four online courses were released on CIHI's Learning Centre: 'Measuring Health Inequalities: An Introduction', 'Planning Your Analysis', and 'Analyzing Your Data'. A course on reporting your findings will follow in mid-2019.

This presentation will provide a demonstration of the toolkit and online learning content using practical examples drawing from commonly used health system performance indicators.

Conclusion: Health equity is a growing priority for healthcare systems in Canada; however, there is limited routine measurement and reporting of inequalities in health care access, quality and outcomes. 'Measuring Health Inequalities: A Toolkit' supports these needs and interests, in pursuit of improved health and equitable health care for all Canadians.

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Author: Donna Plett

Title: Cost-Utility Analysis of Electroconvulsive Therapy and Repetitive Transcranial Magnetic Stimulation for Treatment of Treatment-Resistant Depression in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Electroconvulsive therapy (ECT) has long been an industry standard for the treatment of treatment-resistant depression (TRD). Repetitive transcranial magnetic stimulation (rTMS) is a relatively new treatment option. Results from previous studies to investigate the cost-effectiveness of rTMS and ECT in the management of TRD are unclear and conflicting. This study evaluated the cost-effectiveness of rTMS vs. ECT for treating TRD from a societal perspective using a lifetime horizon in Ontario.

Approach: We used a cost-utility analysis and decision analytic model to evaluate the lifetime costs and benefits of rTMS and ECT for TRD using Markov models and Monte Carlo micro-simulation. Treatment efficacy and health utility data used to populate this model were extracted and synthesized from a literature review of randomized controlled trials and meta-analyses that compared these techniques in the target population. Costing data was obtained from national and provincial costing databases and informal costs were derived from government website records. Scenario, threshold and probabilistic sensitivity analyses were performed to test the robustness of the results.

Results: rTMS dominated ECT, as it was less costly and produced better health outcomes in the base case scenario. The lifetime costs and effectiveness of rTMS were \$859,692 producing 19.9 QALYs compared to \$907,651 producing 17.7 QALYs for ECT. In most scenarios, rTMS remained the dominant treatment. However, when the maximum number of lifetime acute phase treatments of rTMS was made equal to that of ECT in the model, ECT was not dominated and the incremental cost-effectiveness ratio (ICER) was \$83,878. Threshold analyses were run and determined that the model was primarily sensitive to costs and health utilities of the final, unremitting 'severe depression' health state.

Conclusion: From a societal perspective utilizing a lifetime horizon, rTMS is less costly and produces better health outcomes relative to ECT and should therefore be considered the dominant treatment. This suggests that clinicians should consider rTMS for their patients suffering from TRD first, before moving onto more invasive treatments like ECT.

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ID: 490

Author: Janessa Porter

Title: Evolving towards shared HIV care using the Champlain BASE™ eConsult service

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Electronic consultation is a potential strategy to improve access to HIV specialist expertise and promote collaborative care models. The Champlain BASE™ eConsult service provides asynchronous communication between primary care and specialist care providers on a secure, web-based system. Our objective was to describe the use and impact of the service by characterizing the topics of the eConsult usage, the nature of the responses, and the impact as reflected in survey feedback from primary care providers.

Approach: We analyzed the data from eConsults sent between February 2015 and December 2017 to the HIV specialty group, which includes HIV physician specialists, HIV pediatricians, and pharmacists and social workers with expertise in HIV, in Ontario's Champlain Local Health Integration Network (LHIN). We analyzed usage data and close-out survey responses using descriptive statistics, classified eConsults according to a pre-defined list of validated taxonomy, and conducted a thematic analysis on the consultation logs including primary care providers' questions and specialists' responses to identify common clinical themes.

Results: Primary care providers submitted 46 eConsults to HIV specialists during the study period. Primary care providers highly valued the eConsult service (average rating 4.8/5). Almost all questions were answered by an HIV specialist physician or an HIV pharmacist. Approximately two thirds of the questions concerned patients living with HIV, the remainder concerning patients at risk of becoming infected with HIV. The most common question types related to drug treatment (58.7%), management (19.6%), and diagnosis (13.0%). The main clinical themes involved management of significant complexities in people living with HIV, such as comorbidities and drug interactions, and suggestions of coordinated patient care. In 11 cases, primary care providers used eConsult for advice regarding pre-exposure prophylaxis (PrEP) for HIV-negative patients at risk of HIV infection.

Conclusion: eConsult effectively provides primary care providers with guidance and education related to their patients living with or at risk for HIV. eConsult enabled specialists to disseminate information and facilitated care coordination. With increased promotion and uptake of PrEP, eConsult will be a valuable resource for accessing PrEP expertise.

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ID: 136

Author: Sheri Price

Title: Exploring Early Professional Socialization within the Health Professions

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Effective teamwork and collaboration is influenced by early professional socialization experiences. An enhanced understanding of experiences within health professional training can provide insight into how interprofessional collaboration (IPC) can be enhanced at an earlier stage in the formal socialization process. This study examined professional socialization experiences among health professional students from five health professional groups to understand the processes of professional identity construction, early expectations, and perceptions of interprofessional practice.

Approach: This longitudinal, qualitative study employed an interpretive, narrative methodology. Students (n=49) entering health professional programs at Dalhousie University, Canada in fall 2015 participated in repeat, 1:1, audiotaped interviews at three time points- pre-program entry; end of first semester (n=44); end of first year (n=39). Verbatim transcripts were analyzed using narrative analysis to understand professional identity formation and IPC experiences throughout the first year of health professional training.

Results: Participants described a lack of understanding of the various health professional roles and a perpetuation of historical stereotypes across the health professions. Pre-entry conceptualizations of the various health professions influenced the participants' experiences as first year students and caused some dissatisfaction when their expectations of practice were incongruent with training experiences. Participants universally described that the opportunity for tangible learning within a practice setting was the critical turning point in the development of not only their own professional identity, but also provided meaningful exposure towards building respect for other health professions and setting a foundation for future interprofessional collaboration.

Conclusion: Understanding how the various health professional roles are conceptualized among students provides valuable insight into addressing stereotypes and promoting IPC within interprofessional education curricula. Study findings will be used to strengthen initiatives that promote professional identity formation within IPC to ensure the preparedness of a future healthcare workforce.

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Author: Svetlana Puzhko

Title: Improving prescribing policies in Canadian primary care: issues with prescribing medications for depression to obese patients

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Obese patients often experience more severe depression than normal weight patients and may have poorer response to antidepressants (AD) treatment. Certain AD increase weight (are obesogenic) contributing to the prevalence of obesity in patients with depression. Greater understanding of obesogenic AD prescribing patterns is needed to identify problems and improve prescribing policies. Objective: using a national primary care practice database, to estimate the association between obesity status and AD prescribing, focusing on obesogenic AD.

Approach: Study design: Cross-sectional analysis of a large primary care practice-based cohort data. Settings/participants: Electronic Medical Records from the national Canadian Primary Care Sentinel Surveillance Network (CPCSSN) for 2011-2016; adult patients (18 years of age or older) diagnosed with depression. Outcome measures: AD prescribing (prescription for at least one AD, prescription for AD known for its obesogenic effect). Exposure measure: body mass index to categorize patients into obese and non-obese. Analysis: Multivariable logistic regression adjusting for age, sex, and comorbidities.

Results: Among 61699 patients with depression, 41389 (67.1%) were prescribed at least one AD in 2011-2016. Compared with normal weight patients, obese patients were more likely to be prescribed AD (adjusted Odds Ratio (aOR)=1.21; 95% Confidence Interval (CI): 1.16-1.26). Obese patients were less likely to receive obesogenic AD mirtazapine (aOR=0.64; 95% CI: 0.58-0.70) than normal weight patients; however, compared with normal weight patients, obese patients were more likely to receive other medications for depression known for their obesogenic effect: amitriptyline (aOR=1.26; 95% CI: 1.15-1.38), paroxetine (aOR=1.19; 95% CI: 1.06-1.34), and quetiapine (aOR=1.09; 95% CI: 1.00-1.18).

Conclusion: Obese patients appear to be more likely to be prescribed pharmacological treatment with AD and to receive obesogenic AD. While causality cannot be inferred, these prescribing patterns may be implicated in the increased risk for severe depression and poorer response to treatment among obese patients.

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Author: Danial Qureshi

Title: Early initiation of palliative care is associated with reduced late-life acute-hospital use: A population-based retrospective cohort study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Early palliative care can reduce end-of-life acute-care use, but findings are mainly limited to cancer populations receiving hospital interventions. Few studies describe how early versus late palliative care affects end-of-life service utilization. The aim of this study was to investigate the association between early versus late palliative care (hospital/community-based) and acute-care use and other publicly funded services in the 2 weeks before death.

Approach: We conducted a retrospective population-based cohort study using linked administrative healthcare data, observing decedents (cancer, frailty, and organ failure) between 1 April 2010 and 31 December 2012 in Ontario, Canada. Patients were categorized by palliative care initiation time before death (days): early (≥ 60) and late (≥ 15 and < 60). 'Acute-care settings' included acute-hospital admissions with ('palliative-acute-care') and without palliative involvement ('non-palliative-acute-care').

Results: We identified 230,921 decedents. Of them, 27% were early palliative care recipients and 13% were late; 45% of early recipients had a community-based initiation and 74% of late recipients had a hospital-based initiation. Compared to late recipients, fewer early recipients used palliative-acute care (42% vs 65%) with less days (mean days: 9.6 vs 12.0). Late recipients were more likely to use acute-care settings; this was further modified by disease: comparing late to early recipients, cancer decedents were nearly two times more likely to spend >1 week in acute-care settings (odds ratio = 1.84, 95% confidence interval: 1.83–1.85), frailty decedents were three times more likely (odds ratio = 3.04, 95% confidence interval: 3.01–3.07), and organ failure decedents were four times more likely (odds ratio = 4.04, 95% confidence interval: 4.02–4.06).

Conclusion: Early palliative care was associated with improved end-of-life outcomes. Late initiations were associated with greater acute-care use, with the largest influence on organ failure and frailty decedents, suggesting potential opportunities for improvement.

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ID: 261

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Title: Access to novel advanced prostate cancer therapies in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Prostate cancer is a leading cause of morbidity and mortality among men. While metastatic prostate cancer is incurable, it is treatable, and in recent years several trials have shown a clinically-significant survival benefit with the introduction of new treatment options (docetaxel, abiraterone, and enzalutamide). The purpose of this study is to assess current prescribing rates of advanced prostate cancer therapies in varying prostate cancer populations, and to investigate whether disparities of access currently exist.

Approach: We conducted a retrospective cohort study using linked administrative data held at ICES, capturing all patients aged 65+ with a prostate cancer diagnosis (metastatic and non-metastatic) in Ontario between Oct 1st, 2013 and Oct 1st, 2015. We further grouped patients based on either receipt of androgen deprivation therapy (ADT) and presence of castration-resistant prostate cancer. Planned analysis of the following outcomes will be completed soon (prior to the conference): cohort (e.g. age, sex, income, LHIN) and disease characteristics (e.g. PSA, Gleason's score, clinical T-stage), incident medication use including novel hormone therapies (abiraterone, enzalutamide), and prescribing physician specialty.

Results: We identified 15,136 patients who had a prostate cancer diagnosis during the study period. Among these patients, 3,503 were receiving ADT; 733 (20.9%) were metastatic cases, while 2,770 (79.1%) were non-metastatic. We also identified 265 patients who had castration-resistant prostate cancer (metastatic: 67.0 %, non-metastatic: 33.0%). A total of 823 (5.4%) died during the study period, among which 419 had a prostate cancer primary cause of death. Remaining results on outcomes pending (will be completed prior to conference).

Conclusion: As shown through our preliminary results, we have successfully captured prostate cancer patients at varying disease stages. Identification of patient groups who currently have poor access to advanced therapies will help to address future inequities of access as these advanced treatments gain traction earlier in the disease course.

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ID: 266

Author: Danial Qureshi

Title: Healthcare service utilization and costs associated with amyotrophic lateral sclerosis in the last year of life: a population-based study of Ontario decedents

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Amyotrophic lateral sclerosis (ALS) is a neurodegenerative condition characterized by progressive degeneration of motor neurons, usually leading to death within 3-5 years from symptom onset. As ALS progresses, end-of-life healthcare needs become increasingly demanding and costlier. The aim of this study was to compare healthcare service utilization and costs between ALS and non-ALS decedents in the last year of life.

Approach: Using linked health administrative data from ICES, we conducted a retrospective population-based cohort study of Ontario decedents capturing all deaths from January 1st, 2013 to December 31st, 2015. ALS (N=1,212) and non-ALS (N=281,884) decedents were compared on the following measures in the last year of life: (i) places of care, which include the intensive care unit (ICU), non-ICU inpatient care, emergency department (ED), long-term care, complex continuing care, homecare, and rehabilitation; (ii) receipt of palliative homecare and palliative-physician home-visits; (iii) place of death; (iv) total and sector-specific direct healthcare costs which include acute, continuing and inpatient care sectors.

Results: We identified 283,096 decedents in Ontario, of whom 1,212 had ALS. ALS decedents were younger (mean age:70y vs. 76y) than non-ALS. ALS patients spent three times as many days in an ICU (mean:6.3 vs. 2.1), and roughly twice as many days using complex-continuing care (mean:12.7 vs. 6.0) and homecare (mean:99.1 vs. 41.3). A greater percentage of ALS patients received palliative homecare (44% vs. 20%) and palliative-physician home-visits (40% vs. 18%) than non-ALS. Among ALS patients, a palliative-physician home-visit in the last year of life was associated with reduced odds of dying in hospital (OR:0.65, 95%CI:0.48-0.89) and less days spent in ICU and ED near death. Mean cost of care in the last year of life was considerably greater for those with ALS (\$68,311.98 vs. \$55,773.48).

Conclusion: ALS patients spent more days in ICU, received more community-based services and incurred greater costs before death than non-ALS patients. Among those with ALS, a palliative-physician home-visit was associated with improved end-of-life outcomes; however, majority of ALS patients lack access to such services, highlighting potential areas for improvement in care.

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Author: Emily Read

Title: When research-industry partnerships don't work out: Lessons learned

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Obstacles in providing the best care for seniors through care facilities include the high turnover rate of staff, high rates of burnout and compassion fatigue, and a lack of accountability and compliance with best practices. Technological solutions are rapidly being developed to address these and other issues, but are not necessarily improving the quality of care. We sought to validate a digital platform meant to lower workload, increase accountability, and automate repetitive tasks.

Approach: The purpose of the study was to validate a digital platform for daily charting and examine its impact on work and health outcomes of formal caregivers for older adults living in long-term care homes in Atlantic Canada. To accomplish this, we designed a mixed-methods study comprised of (1) a longitudinal employee survey at 3 time points (baseline, 3 months, and 6 months), and (2) open-ended one-on-one interviews with a sub-sample of employees and facility operators. The study was designed to capture longitudinal data about burnout, workplace stresses, and inefficiencies.

Results: We were unable to complete the study as planned due to challenges working with the start-up company. These included gaps in understanding or motivation between the company and the researchers in terms of what the validation study was meant to accomplish. The researchers frequently were challenged to maintain an ethical level of privacy for the study participants and develop an adequate sample size in light of the company's customer service and sales focus. It is possible that there was a perceived dichotomy between the recruitment of research participants and converting customers to a revenue stream. As a result, the company had difficulties recruiting to meet our initial targets.

Conclusion: We make three recommendations for working with startups. 1) Communication between partners needs to be more in-depth than usual. 2) Any information about the client base a company has should be shared with researchers. 3) Both partners should discuss and demonstrate up front how their respective commitments will be fulfilled.

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Title: Exploring the Role of Lay, Peer, and Professional Patient Navigators in Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient navigation (PN) is an innovative approach to address the complex nature of navigating health, education, and social services. Currently, there is no consensus on when to use a lay or peer navigator versus a professional navigator. The purpose of this qualitative study is to explore the situations or populations that are suited for lay, peer, and/or professional navigators in Canada and to describe the rationale for choosing one model of navigation over another.

Approach: A qualitative descriptive approach has been chosen for this study. Participants have been purposefully recruited based on the results of an environmental scan of PN programs within Canada, followed by a general Google search using key terms including, "patient navigation," and "Canada," or the name of each province or territory. Data is being collected through individual semi-structured interviews with patient navigators, and through documents including program evaluation reports. Braun and Clarke's six phases of thematic analysis will be used to guide the analysis of interview transcripts and documents.

Results: Results will outline the roles of patient navigators across Canada who work with various patient populations (e.g. diabetes, mental health and addictions). This study will discuss the reasons why each program was implemented, including the rationale for using their particular model of navigation. Preliminary findings indicate that when choosing an individual to take on the role of a navigator, their designation (e.g. lay, peer, or professional) is less important than their understanding of health system(s) and their ability to connect with the patient. These and other themes will be explored in depth as data collection and analysis proceeds.

Conclusion: This study will generate a better understanding of the patient populations and settings that incorporate lay, peer, or professional navigators. The results will be prepared for publication and add to the literature on PN. Implications of this study include informing existing and future PN programs, particularly those in Canada.

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Title: Evaluation of a family-centred navigation program in youth mental health and addictions

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Many Canadian families of youth with mental health and/or addiction (MHA) concerns are still struggling to access the care they need. The Family Navigation Project (FNP) is a community-based service in Toronto, Ontario offering family-centred system navigation to families of youth aged 13 to 26 with MHA concerns. This study aimed to describe clients served; and to evaluate perceived experiences of accessibility, continuity of care and family involvement, and its collective impact on service satisfaction.

Approach: Within a Realist Evaluation framework, a co-designed, mixed-methods, cross-sectional electronic survey with closed- and open-ended items was administered using a modified Dillman's Tailored Design Method over a four-week period to all families who had registered to receive navigation services for a youth with a MHA concern between June 2014 and September 2016. Survey data was complemented by a chart review. Descriptive and inferential statistical analyses of chart and closed-ended survey data were performed. A descriptive analysis of open-ended qualitative survey data was also used to further contextualize and improve understanding of the quantitative survey data.

Results: From a resulting eligible and valid convenience sample of 688, 134 clients completed the survey for an overall response rate of 19.5%. The majority of the sample identified as parents (93.3%) seeking help for a transitional-aged youth (61.9%) with a wide range of mental health concerns (median=2.0); 45.5% reported concurrent addiction concerns. Accessibility was rated highly across the sample (median=23.0 out of 25), as was continuity of care (median=13.0 out of 15), and family involvement (median=5.0 out of 5). Total service satisfaction score was similarly high (median=18.0 out of 19). A Bartlett Factor Score representing the collective impact of accessibility, continuity of care and family involvement was significantly and positively associated with service satisfaction (Wald $\chi^2=103.18$, $p=.000$). Qualitative data supported the quantitative findings.

Conclusion: Families with diverse MHA needs are seeking navigation. FNP clients in this study sample perceived navigation to be highly accessible, continuous, and family-inclusive; and as a direct result, were highly satisfied with the service overall. Navigation may be an effective intervention for improving the MHA help-seeking experience for Canadian families.

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Title: The top 1% of end-of-life healthcare spenders: Does the dying process always lead to high costs to the system?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Previous studies have shown that a small percentage of the population consumes a large proportion of the healthcare budget. One subpopulation that is a known high cost driver is the end of life population; however, previous work has not examined the distribution of costs among those who are dying. We sought to identify if gradients of healthcare costs exist, even among a group of individuals known to have high costs.

Approach: Retrospective cohort study investigating healthcare use and expenditures of decedents in their last 180 days of life. We captured deaths in a 3-year period, from January 1, 2012 to December 31, 2015 in Ontario, Canada. Records of health care usage and associated costs were linked across various administrative databases using encrypted health card numbers as unique identifiers. We retrieved all records of health care use paid for by the provincial Ministry of Health and Long Term Care (MOHLTC) in the last 6 months of life. All statistical tests were two-tailed and $p = 0.05$ was used to determine statistical significance.

Results: We observed 369,585 deaths. Decedents in the Top 1% spent on average \$301,237 (7.6% of all costs), while the mean cost of the Bottom 50% was only \$15,000 (18.9% of all costs) in the last 180 days of life. Admissions to ICU contributed to 77.8% of costs incurred by the Top 1%, while long term care was the highest cost contributor (26.7%) to the Bottom 50%. Of those who were nearing death, younger age groups, males, urban residents, and people living in rich neighbourhoods were overrepresented in the Top 1%.

Conclusion: This study suggests that the proportion of healthcare users that are driving up healthcare expenditures at the end of life is very small, while the 50% of users are costing the economy quite little. We can look at characteristic of the bottom 50% to identify prevention methods.

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Title: The Who, What, Where, When, and Why of Complex Continuing Care

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Complex Continuing Care (CCC) facilities offer a specialized plan of care for clinically complex patients who need to stay in hospital, but do not require the care intensity of an acute care hospital. We conducted a study to describe CCC facilities in Ontario, Canada, from 2013-2016.

Objectives: identify who is using CCC facilities; regionally compare length of stay (LOS) in facilities; and regionally compare mortality and hospitalization rates while in and post CCC facilities.

Approach: We conducted a retrospective population-based cohort study of CCCs in Ontario, Canada, using health administrative data. We captured all incident CCC admissions between April 1, 2013 and March 31, 2016. Incident admissions to CCCs were identified using the Canadian Continuing Care Reporting System (CCRS). We used the CCRS as well as other linked databases at ICES to obtain patients' sociodemographics, clinical variables, and health outcomes. We categorized facilities by size based on the number of CCC beds. Our outcomes of interest were LOS, mortality, and hospitalization rates and were computed across geographic regions (LHINs) established by the Government of Ontario.

Results: We observed 57,152 admissions to CCC facilities from 2013-2016, of which 4,140 were in small facilities, 29,065 in medium facilities, and 23,947 in large facilities. The North West LHIN had the greatest number of CCC bed days per 100,000 people per year (19,585) while Central West had the fewest (2,412), representing an 8-fold difference. North West also had the highest incident admission rate at 334.2 per 100,000 (compared to 50 per 100,000 in Central West). The North East LHIN had the longest mean LOS (73.5 days) while the South East LHIN had the shortest (41.6 days). Mortality and hospitalization rates varied across regions, with a 2.6 and 2.1 fold difference, respectively, between the highest and lowest LHINS.

Conclusion: The variations across regions found in this study suggest that there are differing standards of practice and services rendered to CCC patients across Ontario. Further work must be done to understand why these variations are occurring.

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Title: Evaluating Comparative Effectiveness of Psychosocial Interventions for Persons Receiving Opioid Agonist Therapy for Opioid Use Disorder: A Systematic Review and Network Meta-Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The opioid crisis is significantly impacting the Canadian health system as a growing number of individuals are experiencing harms due to opioid use. Clinical guidelines recommend that individuals with opioid use disorder (OUD) receive pharmacological and psychosocial (e.g., contingency management) therapy; however, the most appropriate psychosocial therapy is not known. The objective of our systematic review was to assess the effectiveness of psychosocial interventions as an adjunct to opioid agonist therapy among persons with OUD.

Approach: A comprehensive search for randomised controlled trials published in English or French was conducted from database inception to March 2018. The search was conducted in MEDLINE and translated for Embase, PsycINFO and the Cochrane Central Register of Controlled Trials. Reference lists were also reviewed for eligible studies. Two independent reviewers screened, extracted and assessed risk of bias of eligible articles. Primary outcomes of interest were treatment retention and opioid use (based on urinalysis results). Random and fixed effects network meta-analyses were planned for outcomes with adequate homogeneity. Narrative synthesis will be used for outcomes with few studies or extensive heterogeneity.

Results: A total of 12,224 unique citations were reviewed, of which 66 met our inclusion criteria and were included in the review. Due to inconsistent measures and methods of assessment (e.g., self-report opioid use versus urinalysis), only 29 studies for one outcome can be included in a network meta-analysis. A traditional meta-analysis will be conducted to measure abstinence from any illicit drugs. Complete results will be available at the time of presentation.

Conclusion: Understanding the relative benefits and harms of psychosocial interventions provided as an adjunct to opioid agonist therapy can influence clinical guidelines and future health service delivery among individuals with OUD. Identifying core domains to measure will help to enhance homogeneity in trials of interventions in the OUD population.

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Titre: Recherche collaborative pour l'équité et l'optimisation de services d'éducation prénatale

Type d'abstrait: Oral Presentation: Standard

Objectifs: En réponse aux enjeux d'harmonisation conséquents aux dernières restructurations du système de santé québécois et à l'évolution des besoins des futurs parents, l'adéquation et l'équité des services d'éducation prénatale de groupe (ÉPG) sont questionnés. Objectifs : Caractériser les zones de dessertes des services d'ÉPG dispensés par des établissements intégrés de santé et de services sociaux (ÉISSS). Dégager avec les décideurs les iniquités potentielles servant d'assise à l'optimisation des services destinés aux futurs parents.

Approche: En s'appuyant sur le cadre de référence PROGRESS et une approche de recherche collaborative, un «environmental scan» et des analyses de zones de desserte ont permis de caractériser l'organisation, le format et le contenu des services d'ÉPG dispensés par deux ÉISSS et d'en dégager les facteurs d'iniquité. Pour ce faire, les constats issus de l'analyse de sources documentaires (N=104), d'entretiens auprès d'infirmières (N=26) et d'une analyse géographique des 25 sites d'ÉPG de deux territoires ont été intégrés. Sur la base de ces constats intégrés, des pistes d'optimisation ont été identifiées en partenariat avec des décideurs politiques, des gestionnaires et cliniciens.

Résultats: Des 25 sites d'ÉPG documentés, cinq ont misé sur un regroupement de leurs ressources, une majorité offrait 4 séances et couvrait 10 thématiques. Des variations quant à l'organisation (ex. : coûts, accès), au format (ex. : 2 à 6 séances) et au contenu (ex. : nombre de thématiques abordées, temps alloué) ont été identifiées comme principaux lieux d'harmonisation. En matière d'iniquité liée au lieu de résidence, 16 sites sont inaccessibles en transport en commun et la distance maximum entre deux lieux physiques de prestation étant de 100km, certains participants doivent parcourir jusqu'à 50km en voiture, pour s'y rendre. L'offre est uniquement en français (iniquité linguistique), 8 sont payantes (iniquité socioéconomique), mais une majorité font appel à des organismes communautaires (mesure favorisant le capital social).

Conclusion: Ces résultats ont permis aux décideurs d'engager des changements visant l'optimisation et l'harmonisation des services d'éducation prénatale. Ils pourront contribuer à alimenter d'autres prises de décision visant la réduction des inégalités et la consolidation des services au bénéfice de la santé de toutes les familles.

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Author: Kyle Rogers

Title: The impact of rural hospital closures and health service reforms on community-level patterns of hospital admissions in New Brunswick

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Throughout the 2000s, New Brunswick implemented health system reforms aimed at containing rising expenditures by centralizing acute care services, closing or repurposing rural hospitals, and removing 300 hospital beds from the system. The effects of this rationalization on access to care have not been evaluated or explored previously. Our objective was to describe how the reforms affected health service use across New Brunswick overall, and within individual communities.

Approach: We investigated patterns of hospitalizations for ambulatory care sensitive conditions (ACSC) given that a key goal of the reforms was to transition inappropriate acute and emergency care use to primary care. ACSCs are manageable by primary care providers, as such, hospitalizations for ACSCs may represent an inappropriate level of care. We used ten years (2004-2013) of inpatient care data from the Discharge Abstract Database and ICD-9 /10 codes to identify ACSC hospitalizations. We described spatial and temporal patterns in age-standardized: hospitalization rates, incidence of hospitalizations, and rates of admissions via ambulance— overall, and across communities.

Results: At the provincial level, all three rates decreased over the study period. The greatest decrease was among all hospitalizations (i.e., decrease of approximately 4/1,000); the rate of individuals hospitalized decreased moderately (approximately 3/1,000), and ambulance arrival rates decreased only negligibly. These differing rates of change resulted in a convergence of the three rates in later years. We observed some notable community-level exceptions to the provincial trends. For example, although the provincial ambulance arrival rate decreased over the study period, several communities experienced an increase in ambulance arrival rates. Additionally, some rural areas experienced ambulance arrival rates three times higher than urban areas. Urban-rural differences were not as notable for all hospitalizations and incidence.

Conclusion: Major health care restructuring, and the repurposing of several rural hospitals in New Brunswick in the 2000s, resulted in decreased rates of hospitalization for ACSCs. Most hospitals were replaced with community health centres to improve access to primary care; our findings suggest these tactics were successful.

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Author: Arlinda Ruco

Title: Utilizing social media for colorectal cancer screening: an innovative cluster randomized controlled trial protocol

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Utilizing social media for health promotion is an emerging approach in changing health behaviour but remains relatively underexplored in cancer screening. The objective of our study is to report on the protocol of a pragmatic cluster randomized controlled trial (RCT) evaluating the impact of Facebook ads promoting colorectal cancer (CRC) screening.

Approach: We will conduct focus groups with persons in our target population (age 50-74 at average risk for CRC) to develop three messages for inclusion in the trial. We will also conduct “split testing” on Facebook to identify a photo to accompany the ads. A pragmatic cluster RCT will be conducted in Ontario, Canada with randomization at the Forward Sortation Area (FSA). We will target all FSAs, stratified by urban or rural location and randomly allocate each to one of four study arms (message 1, 2, 3 or control group with no ad campaign). The campaign will be launched for three

Results: The primary outcomes will be intention to screen and screening participation. Intention to screen will be captured through Facebook pixel while screening participation will be captured through administrative databases. Secondary outcomes will include click-through-rates, number of likes, impressions and comments of each ad as measured through Facebook Ad Manager. A Poisson loglinear model with generalized estimating equation to account for clustering will be used in order to compare proportions against study arms for the primary outcomes. We will also summarize social media engagement metrics (click-through-rates, likes, impressions, comments) for each ad to compare across intervention arms.

Conclusion: Our study will inform the feasibility of using social media for CRC screening with the potential to reach a large number of people in a relatively short amount of time with the ability to limit cost. Our study results are likely to be taken up by screening programs looking for innovative ways to increase screening participation and can easily be translatable to other cancer disease sites.

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Title: Working Together: Co-designing Priorities for Patient-Oriented Cardiovascular Research by Patients, Clinicians, and Researchers

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As users of the healthcare system, patients hold vital information for the improvement of delivery of care. Patient-oriented research (POR) provides a collaborative model that involves working with patients in research programs to improve health and healthcare. The aim of this study was to identify barriers to CV POR activities and priorities for cardiovascular (CV) health research through a collaboration of patients, family members, clinicians, and researchers.

Approach: This is a qualitative descriptive POR study. Participants included patients with CV disease, their family caregivers, clinicians, and researchers. Recruitment flyers were shared with healthcare providers, clinic managers of outpatient clinics and tertiary healthcare centers in Alberta, and also posted on social media. Clinicians-researchers from the Person to Population Cardiovascular Research Collaborative at the Libin Cardiovascular Institute were invited to participate. During a two-day “Working Together” workshop, participants were introduced to POR, discussed barriers and associated solutions to conducting CV POR, and identified CV research priorities. Data collection included video-recordings, flip-charts and notes documenting discussions. Data were thematically analyzed in

Results: A total of 23 participants attended the workshop including patients and family caregivers (n=12), as well as clinicians and researchers (n=11). The CV health research priorities co-developed by participants included: (1) CV disease prediction and prevention; (2) Access to CV care; (3) Communication with providers; (4) Use of eHealth technology; (5) Patient experiences in healthcare; (6) Patient engagement; (7) Transitions and continuity of CV care; (8) Integrated CV Care; (9) Development of structures for patient-to-patient support; and (10) Research on rare heart diseases. Participants also identified four barriers to CV POR, including lack of awareness of the existence of POR and poor understanding of the role of patients.

Conclusion: This workshop generated high priority areas for future CV research that is relevant patients, their family members, clinicians, and researchers. Future CV research projects and programs of work building off these POR generated priorities may result in research outcomes that are more relevant to both patients and clinicians.

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Title: Understanding Determinants of Opioid Prescribing Among Family Physicians in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The prevalence of opioid prescriptions is an important contributing factor to the opioid crisis. System initiatives are unlikely to achieve reductions in prescribing if they fail to target the real-world determinants of prescribing behaviour. The objectives of this study were to understand (1) the perspectives of family physicians (FPs) as it relates to opioid prescribing, and (2) the perceived barriers and enablers to opioid prescribing and management of chronic non-cancer pain.

Approach: This exploratory qualitative study involved one-on-one, semi-structured interviews with FPs in Ontario, Canada. In partnership with Health Quality Ontario, FPs were invited to discuss their perceptions of and experiences with prescribing and managing opioid therapy for patients in their practice. Questions were informed by the Theoretical Domains Framework (TDF)- a validated framework that helps to systematically uncover determinants of individual behaviour. Interviews were conducted between July and September 2017. Directed content analysis was used to identify emergent codes, associated narratives, and finally a group of central themes.

Results: Twenty-two FPs participated (average age 41 years, 55% female). Practice size ranged from 1 (solo) to 74 physicians (average = 10 physicians) with two participants working alone. Several themes emerged in the data. Notably, how FPs balanced perceived risk of treatment options for their patient and for their practice (Beliefs about Consequences) played a central role in their clinical decision making but varied across participants. FPs' confidence in their ability to apply the guidelines in challenging situations (Beliefs about Capabilities), their conflicting roles as a 'healer' and 'enforcer' (Professional Role and Identity), and their implementation of strategies to reduce prescribing (Behavioural Regulation) interacted to inform their behaviour. Poor access to system supports (Environmental Context and Resources) and stressful patient interactions (Emotion) also influenced prescribing behaviour.

Conclusion: FPs face a wide range of interacting challenges when (de-)prescribing opioids for their patients. Solution-based strategies should target multiple determinants such as individual beliefs about prescribing consequences (i.e., when an opioid is appropriate) plus the skills to navigate the challenging, often-emotional patient conversations.

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Title: Comparing Transitions Between Care Settings Among Older Adults and their Caregivers: A Qualitative Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canadians ≥ 65 years can become high users of health care resources. Consequently, these patients tend to experience more care transitions from hospital to home and are the target of multiple improvement initiatives. There is scarce literature comparing the discharge and the post-hospitalization experience between different care settings. Our study aimed to compare the care transition experience from acute care versus rehabilitation to home among older patients and their caregivers.

Approach: A qualitative descriptive design was employed using telephone semi structured interviews. Participants were recruited from several inpatient units within acute care hospitals and rehabilitation facilities throughout Ontario, Canada, who were enrolled in a randomized control trial (RCT) of a discharge summary intervention. Inclusion criteria included non-palliative participants ≥ 65 years discharged home with congestive heart failure, pneumonia, chronic obstructive lung disease, and hip fracture or hip replacement within the previous 30 days. The following question was used when asking participants to describe their transition experience, 'What stands out for you regarding your transition home after being discharged from [site name]?'

Results: Sixteen patients (mean age 76 years, 56% female) and four caregivers of patients who underwent a care transition participated in a one-time interview. Interviews were conducted between October 2017 and July 2018. Commonly experienced across all care settings was the integral role of a family/informal caregiver in facilitating the transition, patients and caregivers experiencing variable discharge preparation, and health care providers optimizing transitions through relating well with patients and caregivers. The role of a prior transition experience in preparing a patient for discharge and managing their recovery was more commonly voiced by orthopaedic patients. Several gaps identified by this same group and those leaving rehabilitation concerned having to unexpectedly coordinate ongoing post-discharge care and having to wait for outpatient physiotherapy services.

Conclusion: Differing responses between acute care and orthopaedic settings suggest efforts need to be contextualized and embedded in practice but also to prioritize a high level of patient and caregiver engagement during discharge preparation. Our findings underscore the need to create targeted improvement efforts that better support older patients and their

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Title: Maternal-child primary care provider concordance: a population-based cohort study exploring health outcomes.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Family physicians who care for both a mother and infant potentially allow for integrated and coordinated primary care delivery. This may be associated with good health outcomes for the mother-baby dyad. We sought to examine whether health outcomes and access to care differ when a mother and infant receive primary care by the same (concordant) vs. by a different (discordant) primary care provider.

Approach: Population-based cohort study using linked health administrative databases. Primiparous women discharged from hospital with their singleton, term infants were identified between 2005 and 2014 (n=481,721). Providers who delivered the majority primary care to the infant and mother at one year following birth were identified using physician billings. Primary care was assigned as 1) concordant (same family physician), 2) discordant (2 different family physicians), and 3) discordant (pediatrician and family physician). Health outcomes and system utilization were described in the two years following birth. Regression models estimated odds ratios and relative risks of maternal and child health and health system utilization.

Results: Concordant primary care occurred in 49.6% of mother-infant dyads. 23.7% of dyads had discordant family physicians and 26.7% had pediatricians and family physicians. Mothers in pediatrician-family physician dyads were older, had more comorbidities and infants with congenital anomalies. The odds of non-maternity hospitalization (n=23,176) was lower in those discordant vs. concordant care (OR 0.90, 95% CI 0.87, 0.93, 2 family physicians; OR 0.93, 95% CI 0.90, 0.96, pediatrician-family physician). Odds of maternal death (n=144) was lowest in pediatrician-family physician dyads (OR 0.63; 95% CI 0.40, 0.99) compared to concordant care dyads. Maternal primary care visit rates were lowest in discordant vs. concordant dyads (RR 0.30, 95% CI 0.30, 0.30, 2 family physicians; RR 0.49, 95% CI 0.49, 0.50, pediatrician-family physician).

Conclusion: We found no evidence that concordant care improved health outcomes or access to care. Primary care provided by a pediatrician was associated with improved maternal health outcomes and lower system utilization even after accounting for comorbidities and sociodemographic differences in the first two years after birth.

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Author: Rachel Savage

Title: Calcium channel blockers and diuretics: A retrospective cohort study exploring a common prescribing cascade

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Calcium channel blockers (CCBs) are commonly prescribed and first-line agents for hypertension. A common side effect is peripheral edema which can result in the prescription of diuretics, representing a prescribing cascade. The extent to which prescribing cascades involving CCBs and diuretics occur at a population-level is poorly understood. We measured the association between new CCB use and subsequent receipt of a loop diuretic in a cohort of older adults with hypertension.

Approach: Our population-based, retrospective cohort study used health administrative data from Ontario to identify a cohort of community-dwelling adults aged ≥ 66 years with hypertension between September 30, 2011 and September 30, 2016. We compared individuals with new CCB use to those with no CCB use (non-user controls) and those with incident angiotensin-converting-enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) use (other antihypertensive medication controls). Individuals were followed for 90 days to assess receipt of a loop diuretic. We estimated hazard ratios using combined and sex-stratified Cox proportional hazard models adjusted for key confounders.

Results: Our cohort included 41,086 adults newly dispensed a CCB, 231,439 non-user controls and 66,494 other antihypertensive medication controls. At 90 days, new CCB users had a higher cumulative incidence rate of receiving a loop diuretic than controls (1.37% vs. 0.48% (non-user) and 0.66% (antihypertensive medication user), $p < 0.001$). After adjustment, being newly dispensed a CCB more than doubled the hazards of receiving a loop diuretic compared to non-users over three time periods (hazard ratio (HR) = 2.51, 95% CI 2.13-2.96 for the first 30 days, 2.99 (2.43-3.69) for 31-60 days, and 3.89 (3.11-4.87) for 61-90 days). CCB users were also dispensed loop diuretics at higher rates than other antihypertensive medication users (HR=1.69 (1.39-2.05), 2.27 (1.76-2.93) and 2.41(1.85-3.13)). No sex differences were observed.

Conclusion: New CCB users are dispensed loop diuretics at higher rates than unexposed controls, confirming the occurrence of this potentially inappropriate prescribing cascade in clinical practice. To optimize patient safety and health system resources, interventions to raise clinicians' awareness of the role of CCBs in new-onset peripheral edema are needed.

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Author: Craig Scott

Title: Facilitating Precision Health Innovation and Commercialization in Alberta - Identification of Policy Issues Across the Innovation and Commercialization Ecosystem

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Health systems globally are shifting towards Precision Health (PH), the utilization of individual information to inform health and social services delivery to improve health outcomes. PH is a major economic development focus across the globe, however, most Canadian provincial health systems do not have a strategy. This research examines Alberta's Precision Health innovation and commercialization (I&C) ecosystem and the development of new technologies and processes, to identify key policy barriers across the PH I&C ecosystem.

Approach: Qualitative semi-structured interviews were conducted to utilize perspectives from senior-level executives currently engaged in PH I&C in Alberta to identify policy challenges. Participants were grouped by category from the Triple Helix Model of Innovation – Government, Industry, and Academia. A qualitative thematic analysis of the interviews was conducted on the interview transcripts using NVivo software to code the data, generating thematic policy challenges. A scoping literature review was used to identify an innovation policy categorization framework. The chosen framework provided seven categories to evaluate and identify gaps in the existing policies in Alberta.

Results: Sub-optimal coordination between the various ecosystem players was the most consistent and prevalent findings across all groups. Most respondents identified the absence of a mandated organization for PH I&C as a major impediment to decision-making. Multi-sectoral activity was another concern despite acting as an identifier of the capacity to produce PH I&C. Tension between academics and government (health service providers included) existed for “discovery-driven” and “market-pull” research funding. Many respondents were concerned with the level of health system public procurement. Application of the innovation policy framework revealed a lack of formal leadership by an I&C decision-making body as a key barrier. The implementation bodies of public policies have a lack of industry involvement. Throughout the seven categories, demand stimulating policies were absent or underrepresented.

Conclusion: Findings suggest the need for a stronger role of governance structures to coordinate PH innovation ecosystem activity. A group with the capacity to address the multifaceted and interdisciplinary policy challenges may improve PH I&C outcomes in Alberta. Future research is required to inform the design of horizontal and vertical governance.

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Author: Mary Scott

Title: Impact of Inpatient Palliative Care Consultation Post-Discharge: A Systematic Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: While most patients desire to die at home or in hospice, the transition from hospital to community settings often lacks streamlined coordination of care. No systematic review exists that examines the impact of hospital-based palliative care consultations on transitions to the community and associated outcomes. The aim of this review is to appraise the available evidence on the impact of inpatient palliative care consultations on transitions from hospital to community settings.

Approach: A systematic review registered in PROSPERO, Centre for Reviews and Dissemination (ID: CRD42018094924). The Effective Public Health Practice Project (EHPCPP) tool was used for quality appraisal. Studies were included if they assessed the transition from hospital to community and examined outcomes after an inpatient palliative care consultation. PubMed, CINAHL, and Cochrane were searched for quantitative articles published between Jan 1st, 2000-March 11th, 2018.

Results: Our search retrieved 2749 articles; 123 articles were full-text screened. Fifteen studies met our inclusion criteria. Studies reported that inpatient palliative care consultations are associated with high rates of discharge to community settings, greater provision of services post-discharge, improved coordination, and lower rates of re-hospitalization.

Conclusion: This review found that hospital-based palliative care consultations positively impact patient outcomes and transitions to the community. These findings support the delivery of inpatient palliative care to improve patient quality of life and relieve overburdened acute care systems.

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ID: 79

Author: Mary Scott

Title: Access to Long-Term Care for Minority Populations: A Systematic Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canada is a diverse nation of people from various ethnic origins and religions, who speak different languages and hold different sexual preferences. While this diversity is a celebrated hallmark of our population, there have been limited investigations into inequities in health care access for minority groups living in Canada, particularly as they age. The objectives of this review were to assess access to long-term care (LTC) for minority populations and to identify barriers or facilitators.

Approach: A systematic review registered in Prospero (CRD42018038662). We included studies that evaluated the prevalence of minority populations in LTC homes, predictors of their admission to LTC homes, and residents' perceptions of future admission and their likelihood to enter LTC homes. We considered racial, ethnic, religious, language, and sexual preference (Two-spirit-LGBTQ+) minority populations. We piloted and developed search strategies in ten databases.

Results: A total of 11,051 articles were captured in the initial search. An additional 175 were found from manual searching. We removed 3,520 duplicates, leaving 7,705 studies for screening. In total, 90 articles were screened in full text and 55 selected for inclusion. We found that minority groups are less represented in LTC than the general population and that minority status appears to be a determinant of admission and residence. No studies looked at access for religious or Indigenous minorities. Barriers to LTC access for older adults from minority populations included language barriers to accessing appropriate information on LTC, familial pressure to care for patients in their private home, and fear of discrimination. Facilitators reported included provider education to gain cultural insight and support.

Conclusion: Minority populations were consistently found to have lower access to LTC and experience unmet needs, including cultural and language issues, while receiving care in this setting. Findings from this review highlight the need for more research on the LTC needs of older people from minority groups and culturally-sensitive LTC facilities

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Author: Mary Scott

Title: Where do people with dementia spend their last year of life? Healthcare use and costs in a population-based cohort

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Our understanding of when and how persons with dementia who are nearing death move between care settings is limited, despite their elevated risk of experiencing potentially burdensome healthcare transitions (e.g., multiple emergency room [ER] visits or hospital admissions) and how these transitions may impact their dying experience.

Approach: Retrospective cohort study of decedents with dementia (n=181,117) in Ontario, Canada, between April 1, 2011, and March 31, 2017. The population was stratified by settings of care at one year before death: Long-stay nursing home (NH) residents, in the community with a subsequent transition to a NH (short-stay residents), in the community with long-stay home care (HC), and community-dwelling decedents with short-term or no HC support. Multivariable regression models were used to examine the association between care setting and the rate of ER visits, hospital admissions, as well as healthcare cost in the last 30 and 90 days of life.

Results: One-third of Ontarians had dementia at the time of death and most decedents with dementia (56.2%) were in a NH prior to death. Across all cohorts, hospitalizations, ER visits and healthcare spending escalated in the last 90 days of life,. After controlling for individual-level characteristics, short-stay residents, long-stay HC recipients and decedents with limited HC support had 1.74, 2.15 and 1.98 times the risk of hospitalization and 1.65, 2.31 and 2.33 times the risk of ER visits in the last 90 days of life, respectively, compared long-stay NH residents. The estimated average healthcare costs across the same groups were 1.22, 1.50, and 1.53 times of the spending of long-stay NH residents. Findings were consistent for outcomes in the last 30 days of life.

Conclusion: People with dementia who reside in the community in the last year of life have a higher risk of experiencing transitions in care settings than those who were able to receive sustained support in NHs. Results of this study shed light on their care needs and correlation to care outcomes.

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Author: Hsien Seow

Title: PROVIEW: Developing a predictive survival model for cancer patients that incorporates symptom and functional score data over time

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Generally, existing cancer prognostic tools are nomograms from diagnosis and do not incorporate changing symptom and functional scores or health services use over time, which are highly predictive of death. Our objective was to develop and validate predictive survival models that combine cancer type, stage, and treatment with novel functional and symptom score data (e.g. pain) and health services use (e.g. hospitalization) that are updated over time. The models would become a tool called PROVIEW.

Approach: The study included all Ontario patients diagnosed with any cancer between 2008-2015. Cox proportional hazards models were fit at baseline: i.e. diagnosis date, 1-, 2-, 3- and 4-years post-diagnosis to predict one-year survival at each time point. Each model included individuals who survived to that baseline year. Covariates included: clinical variables (e.g. cancer type, stage, treatment), functional status and symptom scores (e.g. pain from Edmonton Symptom Assessment System), and health services use (e.g. hospitalization). Variables in the final models were selected using backward elimination. We used 60/40 (derivation/validation) split-sample and examined calibration plots and c-statistics to assess model performance.

Results: The derivation cohort consisted of 153,296 patients (102,198 in validation cohort). At baseline the median age was 65 (IQR 55-73) and breast cancer represented the largest cancer type. Most demographics remained stable across all 5 years. The final models all had high discrimination. c-stat on the validation models from baseline to 4-years post-diagnosis were 0.90, 0.91, 0.91, 0.91, 0.91. For instance, based on our model, the predicted probability of one-year survival after diagnosis for: 1) Male, age 62, stage III lung cancer, low pain, no dyspnea or depression was 0.59; 2) for a similar patient with high pain, dyspnea and depression was 0.36.

Conclusion: We developed and validated survival prediction models in a cancer cohort at diagnosis and at 1-year time points post-diagnosis, which uniquely incorporate functional status, symptom scores, and prior health services use. Future work will predict other outcomes such as poor function and high symptom burden, which can inform patient decision-making.

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ID: 470

Author: Keiko Shikako-Thomas

Title: Understanding Public Policy Priorities for Childhood Disabilities in Canada Through Computational Text Mining of Public Consultation Data

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In 2017 the government of Canada conducted the largest stakeholder consultation of history, inquiring Canadians about the pressing issues related to making Canada "Accessible to all". This consultation aimed at informing the development of the Bill- 81 "The Accessible Canada Act". The objectives of this study are: 1. To identify child-related priorities identified by stakeholders across Canada, and 2. Correlate these priorities with articles of the UN convention on the rights of persons with disabilities.

Approach: Using the CRISP-DM (Cross-Industry Standard Process for Data Mining) approach to text mining, data from federal government public consultations are being analyzed inductively (Keyword frequency analysis, phrase frequency analysis, named entity extraction and topic modeling) and deductively (creation of key variables including: organization type, region, and language - to compare across each inductive items, and categorization model of key services aimed at children and youth - to assess absence or presence of these concepts in the dataset). Categorization models will capture articles in the UNCRPD and UNCRC to assess the relationship between Canadian public policy preferences and UN conventions.

Results: We anticipate to identify a unique set of stakeholder-driven priorities as collected from a pan-Canadian sample. Results will be categorized according to: jurisdiction levels (federal, provincial, municipal), organization level (civil society, health care - primary care, rehabilitation, education, justice, social services, community and leisure), and according to items of the CRPD and CRC, providing for instance a unique understanding of what stakeholders across Canada believe are important issues related to access to health care services for children with disabilities, what are the challenges faced and what are the solutions suggested. The results will inform the research and integrated Knowledge translation strategies of the Childhood Disability Policy Hub to generate research projects and will be presented to targeted stakeholders groups in a policy hub series.

Conclusion: Children with disabilities are often neglected in public policy and their needs left at the margins of decision-making related to both disability and children's rights. Analysis of large qualitative data can provide in-depth understanding of stakeholders' priorities to guide service, research and policy reducing inequities for marginalized populations.

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ID: 238

Author: Esther Shoemaker

Title: Evaluating maternity care services for women living with HIV

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The incidence of HIV infections among women is increasing in Canada and the majority of these women are of reproductive age. Continuous treatment with antiretroviral therapy enables women with HIV to become pregnant without mother-to-child transmission and they are increasingly planning to become pregnant. Little is known about their healthcare service use and health outcomes. Our objective is to describe, assess and evaluate the service use and outcomes for women living with HIV in Ontario.

Approach: We are conducting a retrospective population-level cohort study using linked health administrative databases at ICES combined with the Ontario data of the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS). Participants are all women living with HIV who were pregnant and gave birth in Ontario, Canada, between 2000 and 2018. We will use multivariable regression to determine the association between sociodemographic and clinical variables and rates of maternal morbidity and labour and birth interventions. Service use and health outcomes will be compared to women without HIV who are pregnant and give birth.

Results: We anticipate to establish how the maternity care service use of women living with HIV relates to their health outcomes and to identify factors associated with poor maternal health outcomes. Our results will inform the maternity care service use and health outcomes of women living with HIV in order to help design quality maternity care delivery strategies for women living with HIV.

Conclusion: HIV specific knowledge is limited in the broader healthcare system and might lead to an overuse of maternity care services and clinical interventions.

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ID: 241

Author: Esther Shoemaker

Title: Identifying priority needs and populations from the perspectives of providers and people with lived experience to improve the health of homeless and vulnerably housed people in Canada: a Delphi consensus study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Homelessness is a concern in many jurisdictions across Canada and has become one of the most disabling and deadly underserved conditions. Homeless and vulnerably housed people experience a high proportion of physical and mental health concerns compared to the general population. We set out to identify need and population specific priorities for homeless and vulnerably housed populations that are used to inform the development of policy and practice guidelines.

Approach: In May 2017, we drafted a list of initial needs and population subgroups based on a literature review. Further input was solicited from ten experts providing care for homeless and vulnerably housed people and five people with lived homelessness experience. We modified the list based on their feedback. Between June and November 2017, we conducted a 3-step Delphi consensus survey with multi-stakeholder experts, including 84 practitioners and 76 people with lived homelessness experience from across Canada, who identified and rated health and social priorities for homeless populations. Experts also established and ranked specific homeless sub-populations in need of additional research.

Results: The Delphi survey was answered by a total of 160 participants. We reached a 73% response rate among experts in the field and health professionals (114 invited and 84 completed the first round of the survey). We received input from 76 people with lived homelessness experience, recruited by volunteers from community partner organizations. Participants came from six provinces and ten urban centres across Canada. Overall, participants identified a series of priority needs: mental health and addiction care; facilitating access to housing; access to income support; and case management/care coordination. Experts also established specific homeless sub-populations in need of additional research: Indigenous Peoples (First Nations, Métis, and Inuit); youth; women and families; people with acquired brain injury, intellectual or physical disabilities; and refugees and migrants.

Conclusion: We anticipate that the inclusion of the perspectives of people with lived homelessness experience will improve the applicability and uptake of the evidence. The identified needs and populations represent the best information for policy making and planning and for the development of evidence based clinical guidelines.

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ID: 246

Author: Esther Shoemaker

Title: Are Canadian HIV Care Settings Patient-Centered Medical Homes (PCMH)?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: HIV is now considered as a complex chronic condition that is often managed in primary care settings for people living with HIV and who are taking continuous antiretroviral therapy. The Patient-Centred Medical Home (PCMH) is a model to deliver such comprehensive, coordinated, and integrated primary care that promotes collaboration between primary and specialist care and allied services. Our study assessed the alignment of Canadian primary and specialist HIV care settings with the PCMH.

Approach: We conducted an explanatory sequential mixed-methods study with representatives from HIV care settings across Canada. We used the PCMH assessment tool modified for the Canadian context and a semi-structured interview guide. We analyzed the survey data to evaluate the alignment settings with the PCMH, while we analyzed the interview data collected from a subset of survey respondents to further assess if and how settings implement the joint domains of patient oriented care as specified by the PCMH. The clinical attributes of HIV care settings and PCMH scores were collected and compared between primary care and specialist care settings.

Results: Twenty-two settings completed the survey and 12 participated in follow-up interviews. Settings had a mean PCMH score of 8.06/12 (SD=1.53), indicating the basic elements of each PCMH domain have been implemented. Continuous team-based healing relationships had the highest score and quality improvement strategy the lowest. We found no significant differences between HIV primary and specialist care settings. The themes that arose from the interviews were: endorsement of the principles of the PCMH by all care settings; organizational structures of settings located in hospitals facilitating the implementation of the PCMH through existing technology, patient advisory boards, accessible care services; and dissonance between complex care needs and existing organizational structures in some settings, including high patient loads, limited clinic hours, and lack of electronic medical records (EMR).

Conclusion: HIV care in Canada is reasonably well aligned with the PCMH model, irrespective of composition of care settings. We propose the need for improvements in the use of EMR, quality improvement initiatives, and accessible mental health services to achieve better care delivery and health outcomes among people living with HIV.

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ID: 137

Author: Drissa Sia

Title: The effect of gender inequity on HIV incidence in sub-Saharan Africa

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In many Sub-Saharan Africa (SSA) countries, women are at higher risk of HIV infection compared to men. Although gender inequalities in the burden of HIV/AIDS are well documented in SSA, the contribution of gender inequity has not been quantitatively examined. We aimed to quantify the extent to which country-level trends in HIV incidence in SSA were influenced by gender inequities, measured by gender gaps in educational attainment, income and gender inequality index.

Approach: Our analysis is based on country-level panel data of 24 SSA countries constructed for the period between 2000 and 2016. Using bootstrapping procedure with 1 000 iterations and threshold of 0.05, we applied panel analysis model (OLS pooled, Fixed-effect and Random-effect) to examine the effect of gender inequities on changes in HIV infection incidence. Hausman test was used to choose the appropriate model between Fixed-effect model and Random-effect model.

Results: HIV incidence decreased by nearly one-half over the period from 2000 to 2016. An increase of one unit of gender inequality index increases the number of new cases of HIV by 1.61 adjusting by country-level socioeconomic and governance variables.

Conclusion: Our study suggests that mitigating gender inequities is a potential strategy to reduce HIV incidence in SSA region. Fight against HIV infection needs supporting relevance interventions for promoting gender equity

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ID: 533

Author: Dorina Simeonov

Title: The Future of Technology and Aging in Canada: A Research Agenda created using Mixed Methods

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The aging population is one of the greatest challenges of the 21st century. Technology is proving itself to be a solution. As Canada's Technology and Aging Network, AGE-WELL is leading the way in developing technologies, services, policies and practices that improve the lives of seniors and their caregivers. Building on its successes, AGE-WELL launched a research agenda for 2020 and beyond to provide a way forward for the innovation community the network has created.

Approach: AGE-WELL used a mixed methods approach to review provincial, territorial, national, and international policy priorities by engaging with government and analysing policy documents. A short list of 18 themes or challenge areas was created. Qualitative data was collected on these themes at five public consultations hosted across the country to engage older Canadians, caregivers, policymakers, researchers, industry and community partners. Quantitative data was collected through an online public questionnaire, which received 518 responses. Feedback from approximately 1,000 stakeholders in total was used to finalize a set of eight challenge areas that make up Canada's technology and aging research agenda.

Results: Our approach resulted in identifying eight challenge areas. A challenge area is an important but difficult and complex problem area that demands innovation and deployment of real-world solutions. A challenge in this context is not just about research questions or priorities; it may be about economic opportunities and making a positive contribution to Canadian society and government policy. AGE-WELL aims to tackle the following eight challenge areas by aligning technology, policy and practice, and service delivery models to create sustainable change:

- Supportive Homes & Communities
- Health Care & Health Service Delivery
- Autonomy & Independence
- Cognitive Health & Dementia
- Mobility & Transportation
- Healthy Lifestyles & Wellness
- Staying Connected
- Financial Wellness & Employment

AGE-WELL produced an online and print booklet defining each challenge area and innovative solutions.

Conclusion: These are areas where technology can make a significant difference and will push the scientific envelope, according to AGE-WELL's research community and stakeholders. Tackling this research agenda will ensure that current and future generations of seniors and caregivers have the technology-based solutions they need to live well and age well.

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Author: Deepa Singal

Title: Prenatal care of women who give birth to Children with Fetal Alcohol Spectrum Disorder in a universal health care system: A case control study using linked administrative data

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Physicians delivering prenatal health care (PNC) services are in a unique position to help prevent or reduce alcohol consumption during pregnancy and can play an integral role in decreasing the prevalence of FASD. However, few studies have investigated PNC use among women who use alcohol during pregnancy. The objective of this study was to investigate rates of PNC usage of women who have given birth to children with Fetal Alcohol Spectrum Disorder (FASD).

Approach: A case control study was conducted of women with children born in Manitoba between April 1, 1984 and March 31, 2012, with follow up till 2013 using linkable administrative data. The study group included women whose child(ren) were diagnosed with FASD (n=702) between April 1, 1999 and March 31, 2012 at a centralised diagnostic clinic. The comparison group included women whose children did not have an FASD diagnosis (n=2097), exact matched on the index child's birthdate, postal code, and socioeconomic status (SES). Adequacy of PNC utilization was defined using the revised Graduated Index of Prenatal Care Utilization.

Results: Women in the study group had lower socioeconomic status than women in the comparison group and were more likely to have mental disorders and involvement with the child welfare system. Rates of inadequate PNC were higher among the study group (adjusted Relative Risk (RR) 2.47, 95% Confidence interval (CI) 2.08 to 2.94), as were rates of no PNC (adjusted RR 3.55, CI 2.42 to 5.22). Among the study group 41% received no or inadequate PNC, with 59% receiving intermediate, adequate, or intensive PNC.

Conclusion: Women who give birth to children with FASD have higher rates of inadequate PNC and significant social complexities. Socioeconomic disparities in the use of PNC should be addressed; multi-sector interventions are needed that facilitate the uptake of PNC among high risk women with alcohol use.

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ID: 133

Author: Thushara Sivanandan

Title: Cost of a Standard Resident Day

Type of Abstract: Oral Presentation: Standard

Background and Objectives: With Canada's aging population, the long-term sector represents a critical component in ensuring a sustainable health care system. However, no comparable pan-Canadian financial reporting is available for this sector, despite growing stakeholder interest in health spending costs across the continuum of care. This work aimed to develop an indicator that measures the average full cost of caring for a standard resident per day, for residential care facilities and hospitals in which long-term care is provided.

Approach: The Cost of a Standard Resident Day (CSRD) indicator was calculated by linking financial data to clinical interRAI data from the Canadian MIS Database (CMDB) and Continuing Care Report System (CCRS) respectively, for a subset of facilities in Alberta, British Columbia, Manitoba, Newfoundland and Labrador, Ontario and Saskatchewan. It includes health and non-health component expenses, with the former adjusted for resident complexity using the facility's Case Mix Index (CMI) value derived from CIHI's most recent case mix grouping methodology.

Results: Indicator results are reported for fiscal year 2016-2017 at the facility level with regional, provincial and national aggregations. In 2016-2017, the average full cost per day of caring for a standard resident in Canada was \$227. The study highlighted geographic variations in the average full cost of caring for a standard resident per day. Provincial indicator values ranged from \$200 to \$304 per day for Alberta and Newfoundland and Labrador respectively, with regional values varying from \$154 to \$432.

Conclusion: As one of the first attempts to measure the cost of providing care to residents at the pan-Canadian level, this indicator can help health system managers and decision-makers assess changes in cost-efficiency over time and compare across peer facilities, regions, and jurisdictions.

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Author: Glenys Smith

Title: Development and characterization of a palliative care cohort using administrative data in Ontario, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In recent years, the receipt of palliative care (PC) has been used as a proxy measure for advanced illness in individuals approaching end of life. The purpose of this research is to define a cohort of individuals in Ontario, Canada receiving a palliative care label (e.g. flag indicating eligible for PC home services or service such as PC nursing visits) across multiple sectors and characterize how closely PC label is associated with 1-year mortality.

Approach: We identified all variables indicating receipt of a PC label within multiple linked health administrative databases held at ICES. We categorized each variable by type, setting, and provider of care. We created a cohort of individuals aged ≥ 18 years who received their first ever PC label between April 2011 and March 2016.

Then, we used Kaplan-Meier survival curves to measure the association between receipt of a PC label and 1-year mortality. We compared the PC cohort to an age- and sex-matched cohort of Ontarians aged ≥ 18 years who were alive between April 2011 and March 2017.

Results: We identified 55 PC variables in 9 databases held at ICES. Our final PC cohort consisted of 338,128 individuals. The average age of the PC cohort was 73.3 ± 15.68 years and 47.4% were male. Of those, 324,876 (96%) were successfully matched to a population control. A significantly higher proportion of individuals among the PC cohort compared to the population controls died within 1 year (55.4% vs. 3.4%). Individuals who received their first ever PC label in an acute care setting were the most likely to have died at 1 year (89.6%) compared to those identified in an outpatient setting (29.1%), or a home care setting (56.7%).

Conclusion: The ICES-derived PC cohort has a higher rate of death compared to population-matched controls, and this rate varies significantly among PC settings. Over half of individuals in the PC cohort were still alive one year after their first PC label. Further work is required to determine why differences exist.

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Author: Heather Smith

Title: Simulation modeling to inform health policy and system decisions in colorectal cancer screening: a systematic review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Simulation modeling has frequently been used to assess interventions in complex aspects of healthcare where clinical trials are not feasible, such as colorectal cancer (CRC) screening. Simulated models provide estimates of outcomes, unintended consequences, and costs of an intervention; therefore, offering an invaluable decision aid for policy-makers and healthcare leaders. This systematic review aims to assess if simulation modeling has supported evidence-informed decision-making in CRC screening.

Approach: A search of the academic and grey literature published between Jan 1,1999-2019 will be conducted to identify articles that include both 1) simulation modeling methods and 2) a focus on CRC screening. Articles will be assessed by three independent reviewers for risk of bias and the extent to which the study contributes evidence towards informed decision-making. Criteria required for informed decision-making will be used as outlined in the internationally recognized Grading of Recommendations Assessment, Development and Evaluation Evidence to Decision framework (GRADE EtD). These criteria include information on an intervention's resource utilization, cost-effectiveness, impact on health equity, and feasibility.

Results: Our preliminary search retrieved 571 articles. We anticipate this systematic review will synthesize the contribution simulation modeling methods have provided to informing decision-making in colorectal cancer screening. Furthermore, methods that are associated with a stronger impact on decision-making will be identified in our analysis and discussed.

Conclusion: This systematic review will describe the contribution of simulation modeling methods in health policy and health system decision-making in CRC screening. Our findings will provide guidance to researchers and healthcare leaders for making evidence-informed decisions on CRC screening processes and programs using simulation modeling.

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ID: 227

Author: Isabel Smith

Title: Services for Preschoolers with Autism Spectrum Disorder: Provincial Differences and Policy Implications for Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Diagnostic and early intensive behavioural intervention (EIBI) services for autism spectrum disorder (ASD) vary greatly across Canada. Several provinces/territories are reforming programs to meet growing demands and improve outcomes. However, comparative data to guide these efforts are lacking. Services in New Brunswick (NB) and Nova Scotia (NS) differ in type, intensity and funding models. The Preschool Autism Treatment Impact (PATI) study compared NB and NS service models, child and family outcomes, and public/private resource use.

Approach: In partnership with policy makers, the research team gathered data on EIBI program organization and intervention methods, and on related services and their costs from service providers and government partners. We measured children's adaptive behaviour (competencies), ASD symptoms, and behaviour problems using standardized questionnaires before EIBI and after one year. Parents reported on their parenting self-efficacy and stress pre- and post-EIBI, and satisfaction with EIBI services. Parents' financial costs, use of public and private health and community services, and productivity losses were gathered via interviews. Costs were examined from public, societal, and family payer perspectives.

Results: In NB, private EIBI agencies subsidized by Education delivered 20 hours/week. In NS, fewer hours were delivered by public-sector professionals through Health & Wellness, using another treatment model. In NB, EIBI commenced 4 months after diagnosis compared to 12 months for NS. Prior to EIBI, 64% of NS families sought some form of early intervention compared to 29% of NB families. Prior to EIBI, NB children were younger, with milder symptoms, fewer behaviour problems, and greater adaptive behaviour. Despite these differences, adaptive behaviour gains during intervention did not differ. In both provinces, behaviour problems decreased during EIBI but ASD symptoms did not. Public costs were substantially higher in NS (e.g., higher provider salaries); costs were higher for NB families (e.g., travel to specialized intervention centres).

Conclusion: These results highlight contrasts in provincial policy choices regarding type, intensity and timing of diagnostic and intervention services for children with ASD, as well as variation in public and private sector costs. More pan-Canadian research is needed to evaluate such trade-offs, which have substantial consequences for children and their families.

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Author: Maureen Smith

Title: Patient Engagement in Developing Core Outcome Sets for Rare Disease

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As patient partner investigators, we led the patient engagement activities for a research study to develop Core Outcome Sets for two rare pediatric diseases, phenylketonuria (PKU) and medium-chain acyl-CoA dehydrogenase deficiency (MCADD). To ensure that future PKU/MCADD research is geared towards outcomes that are meaningful to patients and families, integrating their perspectives in this study was critical. We identified and designed strategies to address barriers to engaging with patients and families throughout.

Approach: This study involved an evidence review; a Delphi consensus survey to ascertain the views of patients/families, health care providers, and policy decision-makers; and a final multi-stakeholder workshop. We assembled a 6-member Family Advisory Forum (FAF) who received in-person training and regular on-going communication. Given that scientific terminology surrounding outcomes was identified as a barrier, FAF members reviewed survey materials to ensure they were relatable and understandable to the target audience. Following a pre-workshop preparation session, FAF members also participated in the final workshop, contributing to the discussion and voting on the final outcomes for each Core Outcome Set.

Results: Engagement with patient/family partners and advisors led to meaningful changes to the study methods, including clarifying survey materials and simplifying the presentation of Delphi findings. Thirty-seven parents and 16 clinicians or policy decision-makers completed all three rounds of the Delphi survey. At the final workshop we presented survey results for parent participants separately to ensure their full consideration. Four FAF members and both patient partner investigators participated in the workshop together with researchers and clinicians. We used an adapted nominal group technique to provide an equal opportunity for all workshop attendees to contribute to the discussion. On a post-workshop survey, all FAF members who participated agreed or strongly agreed that they were able to express their views freely and felt their input was considered.

Conclusion: A patient engagement approach guided by patient partners is valuable and acknowledges that patients/caregivers are experts in the disorders they live with. This design can be reproduced to develop Core Outcome Sets for other rare diseases, allowing the patient perspective to influence the direction of future research projects.

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Title: Learning to improve the design of centralized waiting list for unattached patients : results from a cross comparative study conducted in seven provinces

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Seven Canadian provinces (Quebec, Ontario, British Columbia, Manitoba, Nova Scotia, Prince Edward Island, New Brunswick) have centralized waiting lists (CWLs) to help patients find a primary care provider. Little is known about how best to design and implement these CWLs and the literature mostly focuses on CWLs in other fields of healthcare (e.g. elective surgery). Our aim was to compare CWLs for unattached patients to available scientific evidence to make recommendations to improve their design.

Approach: We conducted a logic analysis in three steps: 1) we built logic models describing the CWLs for unattached patients in the seven provinces (42 key stakeholder interviews); 2) we conducted a realist review to develop a middle-range theory of CWLs in design and implementation in healthcare (21 articles); 3) we analyzed the interview data (step 1) using a realist approach and compared this empirical data to our middle range theory (step 2).

Results: Similarly to CWLs described in the literature (mostly for elective surgery), we observed that: 1) when CWLs are not mandatory, providers' lack trust in CWLs for unattached patients or perception of CWLs as additional work may lead to low uptake of the CWL; 2) incomplete or vague guidelines may lead to inconsistent prioritization of patients and inequities in access to a primary care provider; 3) rewards or punishments to encourage provider participation in CWLs may lead to instrumental use of the CWL and to cherry-picking of patients. However, CWLs for unattached patients have three particular challenges which warrant additional design consideration: 1) population-wide (vs. referral based); 2) broad prioritization criteria (vs. disease specific); 3) long-term relationship between providers and patients (vs. one-off).

Conclusion: Using data from stakeholders across Canada and scientific evidence, we identified specific challenges of CWLs for unattached patients. Policy-makers should consider these elements in the design and implementation of CWLs in order to improve access to primary care providers and avoid unintended outcomes.

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Author: Yuting Song

Title: Work Context and Missed and Rushed Care by Care Aides in Long-term Care Homes

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The increasingly complex care needs of long-term care (LTC) residents have challenged the LTC system. Evidence reveals that LTC staff commonly rush care tasks or even leave them undone. Emerging LTC research suggests that in work contexts with more favorable features (e.g., leadership, culture), care staff are less likely to rush or miss care tasks. Our objective was to rigorously examine the association between work context and missed or rushed care in LTC homes.

Approach: This was a secondary analysis of survey data (n=3,769 care aides) collected in a representative sample of 86 urban LTC facilities in Western Canada. Our dependent variables, were the number of care tasks care aides missed (0–8) or rushed (0–7) in the last shift. Our independent variable was the quality of care-unit work contexts. Using the Alberta Context Tool, we determined whether a unit had a more or less favorable work context. Controlling for care aide, unit and facility characteristics, we ran 2-level random-intercept Hurdle Regressions to assess the association between work contexts and tasks rushed or missed.

Results: 52% of the care aides reported having missed at least one care task and 65% reported having rushed at least one care task in the last shift. Taking residents for a walk was missed most often (48%), talking with residents was rushed most often (47%). Care aides on units with more favorable work environment were more likely not to miss any care task (OR=1.51, 95% CI: 1.23-1.84) and not to rush any care task (OR=1.45, 95% CI: 1.20-1.76). Of care aides who reported missing or rushing at least one task, those who work on units with more favorable work contexts missed (OR=0.86, 95% CI: 0.82-0.91) or rushed (OR=0.83, 95% CI: 0.74-0.92) fewer care tasks than care aides on units with less favorable contexts.

Conclusion: Care aides frequently rush and miss care tasks, but are less likely to do so on care units with better work contexts. Further research is needed to understand which factors of work contexts most effectively prevent missed or rushed care, to inform powerful improvement interventions.

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Author: Allison Soprovich

Title: Utilization and Outcomes Associated with Pharmacy-Billed Comprehensive Annual Care Plans in Alberta

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In 2012 Alberta Health implemented a reimbursement model for community pharmacies for the collaborative development of comprehensive annual care plan (CACP) with patients living with chronic diseases. While this initiative was intended to improve quality of chronic disease care and patient outcomes while containing costs, little evaluation of the program has occurred. The purpose of this study was to address this knowledge gap in order to inform future reimbursement negotiations and chronic disease healthcare delivery.

Approach: Linked administrative health care and laboratory data were used to evaluate utilization and outcomes for all patients who received a pharmacy-billed CACP in Alberta from 2012 to 2015. We used interrupted time-series analyses to explore patterns of all-cause hospitalization, condition-specific hospitalizations, ER and physician visits, for 1-year periods before and after the billing of the CACP. Two control patients, matched on age, sex, pharmacy, date of service, and qualifying CACP conditions, were identified for each patient who received a CACP in order to further control for secular trends in outcomes occurring over the same time period.

Results: Between 2012 and 2015, 246,708 CACP were billed by pharmacies in Alberta, costing Alberta Health approximately \$27,754,650. Hypertension (83%) was the most common qualifying condition for a pharmacy CACP, followed by mental health disorders (72%) and diabetes (50%). Among those patients who received a CACP, the mean number of physician visits increased in the year following the CACP from 6.01 to 8.31, largely driven by additional GP visits rather than specialist visits. Similar trends were identified in the matched controls, however, suggesting a secular trend rather than a CACP effect. The mean number of hospitalizations and ER visits remained relatively stable 1-year before and after in both the CACP patients and the control group.

Conclusion: Overall, the uptake of the pharmacy CACP initiative was extensive and costly to the health care system. The CACPs were largely utilized for patients living with hypertension, diabetes and mental health disorders. Little impact on health care utilization for individual patients in the short-term was observed.

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Title: Use and Outcomes Associated with General Practitioner Physician-Billed Comprehensive Annual Care Plans in Alberta

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In 2009 Alberta Health implemented incentive payments for general practitioner physicians for the collaborative development of comprehensive annual care plan (CACP) with patients living with multimorbid chronic disease. Although this initiative was intended to improve quality of primary care and patient outcomes while containing costs, it is unknown if CACP are achieving these goals. We aimed to address these knowledge gaps, to inform future reimbursement negotiations and potential improvements to these initiatives.

Approach: We used linked administrative health care and laboratory data to examine use and outcomes for all patients who received a physician-billed CACP in Alberta from 2009 to 2015. We used interrupted time-series analyses to examine patterns of all-cause hospitalization, condition-specific hospitalizations, ER and physician visits, for 1-year periods before and after the billing of the CACP. We also examined patterns of guideline recommended processes of care (i.e. medication use and laboratory testing). To ensure our estimates were not confounded by temporal trends, we identified up to 2 control patients, matched (based on age, sex, provider, and qualifying CACP comorbidities).

Results: Between 2009 and 2015, 880 529 CACP were billed by 1757 unique physicians per year on average, costing Alberta \$184,884,419 total. Across time, 45% had a CACP in the year before, and 25% in the two prior years. By 2015, 100% of CACP claims were for patients with at least one previous CACP. Hypertension was the most common documented chronic condition for patients to receive a CACP by a physician, followed by diabetes and mental health conditions. No changes were observed in the number of hospitalizations, ER visits, or physician visits among patients who received a CACP; similar patterns were observed among matched controls. There were no clinically meaningful changes in medication use, adherence or ordering of appropriate laboratory tests before and after the CACP.

Conclusion: Overall, we found that the general practitioner CACP program was expensive at the system level, but used by a relatively small proportion of eligible physicians, largely for patients living with hypertension and diabetes. We observed little impact on health care use and outcomes for individual patients in the short-term.

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Author: Karen Spithoff

Title: Barriers and facilitators to implementing an early rehabilitation bundle in a pediatric intensive care unit: a qualitative analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: A reduction in the mortality rate for critically ill children has been offset by an increase in incidence of pediatric intensive care unit (PICU)-acquired complications, leading to delays in patient recovery. A care bundle was designed and implemented in a PICU to enhance early rehabilitation. The objective of this project was to evaluate the clinical staff's perception of the bundle and identify implementation barriers and facilitators to inform sustainability and future implementation activities.

Approach: Three semi-structured focus group sessions were conducted with pediatric residents and fellows, physicians, nurses, and other staff at the McMaster Children's Hospital (MCH) PICU. Focus group questions were based on selected domains of the Consolidated Framework for Implementation Research (CFIR) and were tailored to specific components and resources associated with the intervention bundle. Focus groups were led by one of two facilitators and audio recordings were created with participant consent. A thematic qualitative analysis of the audio transcripts was conducted using NVivo software, with transcript content coded and organized based on CFIR domains.

Results: Forty-five people participated in the focus groups. Overall, participants were positive about the intervention bundle and felt that it improved the rehabilitation of critically ill children; however, results indicated that implementation was inconsistent across individuals and across disciplines. Key barriers to implementation included lack of knowledge and skills related to the intervention bundle among pediatric residents, incompatibility of intervention processes with workflow, lack of perceived importance of completing an intervention daily goals checklist, and varied levels of comfort among PICU staff with applying clinical aspects of the program. Recommendations to address these barriers included creating a sustainable training program for residents and staff, incorporating the program goals checklist into patients' charts, and improving resources made available to staff about applying components of the intervention bundle.

Conclusion: Qualitative analysis of the focus group results identified key modifiable barriers and facilitators to implementation of an intervention bundle recommending best practices at a tertiary care PICU. These results will be used to inform ongoing and future implementation of the intervention at PICUs to improve outcomes for critically ill children.

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Title: Implementation of a program to improve screening and communication of risk of violent and aggressive patient behaviours in a hospital setting: a mixed methods evaluation

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Workplace violence involving aggressive and responsive patient behaviours is a top safety concern in the hospital setting. A program was developed and implemented in a tertiary care centre emergency department and inpatient units to better identify and communicate potential patient behaviour safety risks and to develop care plans to manage patients with an identified risk and prevent violent incidents. Our objective was to evaluate the implementation of the program and its effectiveness.

Approach: A mixed methods approach was used for evaluation. Surveys were administered to staff before and after program implementation to assess their perception of risk from patient behaviour and confidence in identifying, managing, and communicating patient risk. Focus groups and interviews were held with staff, with questions based on the Consolidated Framework for Implementation Research (CFIR). An audit was conducted to evaluate compliance with patient screening and use of risk communication tools and care plans. Incidence of emergency code calls, security assists, and safety occurrence reports related to violent or aggressive patient behaviours before and after program implementation were analyzed.

Results: 750 staff completed the baseline survey and 448 completed the post-implementation survey. Overall, staff perception of risk from patient behaviour decreased after program implementation while staff confidence in identifying and managing patients with behaviour safety risk and agreement that staff were successful at communicating risk increased. Focus groups and interviews identified areas for improvement but most staff believed the program will help to keep them safe. Audit results showed a patient screening compliance rate ranging from 56% to 100% across units. Use of risk communication tools was appropriate in most cases; however, there was room for improvement in development of care plans for patients with an identified risk. Evaluation of program effectiveness, including emergency code calls, security assists, and safety occurrence reports, is ongoing.

Conclusion: Evaluation results identified key barriers and facilitators to implementation of the behaviour safety risk program. These results are being used to inform continued program implementation at the test site and at other regional hospitals to improve staff safety and patient care related to violent, aggressive, and responsive behaviours.

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Title: Need for palliative home care and barriers to access among Francophones in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: While legislation (The French Language Services Act, 1986) stipulates equitable access to health services regardless of one's primary language, existing research has shown that Francophones are more likely to have unmet health care needs and die in acute care settings compared to Anglophones in Ontario. This research investigates the equity of access to home care services between Francophones living in a minority context (i.e., in a province that is predominantly English-speaking) and Anglophones in Ontario.

Approach: We used a retrospective cohort of decedents in Ontario (January 1, 2012–December 31, 2016) who had a Residential Assessment Instrument (RAI) Contact or Home Care assessment 6-18 months before death. To examine equity of access to home care services, we compared the proportion of Francophones and Anglophones with any home care, as well as palliative home care services, in the last 6 months of life. Subsequently, we calculated the time from each RAI assessment (i.e., when home or palliative care needs were identified) to their first receipt of home care and palliative care services from the home care database.

Results: Out of 129,722 decedents, 2% were identified with a primary language of French and 86% with a primary language of English. Despite the higher proportion of informal caregivers who reported being distressed/overwhelmed in the Francophone population (18% vs 13%), a lower proportion of Francophones were identified as needing home care (63% vs 72%). Approximately 5% of both Francophones and Anglophones were identified as needing palliative services. Of those needing home care services, Francophones had a shorter mean time to first home care service compared to Anglophones (0.55 [SD 7.96] days vs 0.88 [SD 12.25] days). However, Francophones had a longer mean time to first palliative care service of 61.99 days (SD 127.16 days) compared to 46.43 days (SD 104.46 days) in Anglophones.

Conclusion: Results from this study suggest that Francophones living in a minority context may face additional barriers to accessing palliative home care, which did not appear to be present in access to general home care. Ongoing analysis aims to examine whether these differences are exacerbated in decedents who require translation services.

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Title: Health care utilization for children in the last year of life and the system-level impact of availability of pediatric palliative care services

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Pediatric palliative care (PPC) improves quality of life for children and families facing life-threatening conditions, and often includes end-of-life care. For individual children, specialist PPC services (consultant teams and/or inpatient hospice facilities) have been associated with decreased health care utilization and costs. This study compares regional health care utilization and costs for pediatric decedents, across two regions, one with and one without the availability of these PPC services.

Approach: A retrospective cohort study compared all decedents aged 1 month to 19 years at time of death (January 2010 to December 2014) from regions surrounding CHEO in Ottawa and McMaster Children's Hospital (MCH) in Hamilton. The regions were similar during this time period, except that the CHEO region had a specialist PPC team and a pediatric hospice facility, while the MCH region had neither. All decedents eligible for Ontario's Health Insurance Program in their last year of life were included. Outcomes measures included days accessing health care, health care costs in the last year of life, and location of death.

Results: 807 decedents were identified (45% CHEO, 55% MCH). Statistically significant differences included the CHEO region having more decedents living rurally (29.8% vs. 10.8%, $p < 0.001$); fewer mean home care days (18.7 vs. 30.9, $p = 0.006$), and a smaller proportion of in-hospital deaths (55.1% vs. 63.7%, $p = 0.013$). Non-significant trends included fewer mean days in ICU (9.9 vs. 13.6, $p = 0.11$), more days in emergency (1.49 vs 1.29, $p = 0.11$), and lower measured mean health care costs (\$68,748 vs \$87,766, $p = 0.13$). Hospice days and costs, however, are unfortunately not captured in this dataset, and are an area for further research. The potential cost-savings for the MCH region (\$1,700,000/year) exceeded the total ministry of health funding for the CHEO region hospice (~\$1,000,000/year), which also encompassed the care of many non-decedents.

Conclusion: Health care utilization in the last year of life as well as location of death were different between these regions during this time period. The presence of PPC services may be one contributing factor. Further research is required to determine the strength of this association.

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Author: Christie Stilwell

Title: Responding to the needs of older women who experience intimate partner violence: A mixed methods study of service providers

Type of Abstract: Oral Presentation: Standard

Knowledge is lacking on the specific supports and services available to women midlife and older who experience intimate partner violence (IPV) in Canada. Presently, many IPV services target women of childbearing age, and while these services do not necessarily exclude older women, they often overlook the unique needs of this demographic. This mixed method study aimed to examine the current support services for older women who experience IPV in Canada.

To meet the aim of this study, a systematic web search was conducted to locate Canadian programs, organizations, and other supports for older women who experience IPV. Key information (i.e. type of program, location served) was recorded from each of the supports that fit the inclusion criteria. To gather more information, invitations to participate in a web-based survey were extended to the administrators of these supports. Finally, semi-structured interviews were held with interested survey participants to provide more context on their services, and to gather further insights on IPV supports for older women across Canada.

The web search yielded approximately 80 services that appeared, explicitly or implicitly, to support older women who experience IPV. Invitations were sent to these services and 25 full or partial responses were recorded. Semi-structured interviews were held with 8 participants. Responses from the survey and interviews provided a rich description of the current services being provided, populations who access these services, organizational and collaborative challenges, achievements, future developments, areas where more knowledge or training is needed, and other organizations who support older women who experience IPV.

Findings from this study draw attention to the diverse range of services that are available, however it is apparent that more initiatives are needed to support older women who experience IPV. Further, innovative solutions are needed to navigate the barriers that interfere with the development and provision of these services.

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Title: Multidisciplinary care and opioid dose reduction: a systematic realist review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: As Canada's opioid crisis accelerates, there is growing emphasis on restricting prescribing. Lowering dosages in people with chronic non-cancer pain can be challenging and may inadvertently increase harms through higher street opioid use. Recent guidelines suggest multidisciplinary care (MDC) can help with tapering; however, MDC for this purpose is not well characterized. We therefore conducted a systematic realist review to understand what constitutes MDC for opioid tapering and by what mechanisms these programs operate.

Approach: A recent systematic review examining opioid dose reduction strategies demonstrated significant heterogeneity across program settings, program approaches, and program goals. Therefore, we elected to take a realist review approach which is designed to distill common context, mechanism, and outcome configurations in complex interventions. We searched 5 academic databases (Ovid MEDLINE, PsycINFO, AMED, CINAHL Plus, and Cochrane Library) to identify studies that evaluated MDC and reported on changes in opioid doses. We also searched the grey literature, conducted iterative hand searches, and consulted experts to identify the broadest possible literature.

Results: 12,872 records were identified and appraised; 96 studies were included in the final review. The studies spanned five decades and included 97 evaluations of 77 distinct programs from 12 countries. The majority of programs were located in tertiary care and were at least three weeks in duration. Pain relief and behaviour change approaches were integral but insufficient in reducing opioid doses. Only programs that required opioid tapering were effective in reducing doses, but there were significant relapse rates at one year follow-up (20-40%). In primary care settings, dose reductions occurred only when there was a change in the prescriber. Irrespective of setting, peer and family involvement were important facilitators of change.

Conclusion: Most chronic opioid prescribing in Canada happens in primary care, thus most policies focus on this sector. Yet, much of the evidence informing policy is generated in other sectors. More diverse generation and effective translation of this evidence across sectors is vital in avoiding unintended negative consequences of well-intentioned policy.

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Title: Pharmacare in the age of the opioid crisis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Over the last several years, there has been a rapid acceleration of policy movements towards a national pharmacare program. A central policy project of national pharmacare is to determine a formulary of which drugs do and don't qualify for universal coverage. This policy analysis aims to discern the central ideas informing formulary construction and then develop a conceptual framework to better anticipate and mitigate possible negative unintended consequences of pharmacare implementation.

Approach: For the purposes of this analysis, I conceptualize the pharmacare formulary as an institution that encodes expectations relating to pharmaceutical utilization. By examining the content of proposed criteria for formulary construction, then, I can discern the major ideas informing pharmacare. I will do this by refracting questions through the current opioid crisis. Both the genesis and propagation of the crisis are intimately connected to the policies and practices relating to medicines that sit on every public formulary in Canada. Opioids are a challenging case that help clarify relationships and uncover hidden assumptions underpinning pharmacare.

Results: This analysis uncovers four distinct ideas informing national formulary construction that fall into economic, equity, administrative, and health concerns. Included drugs are expected to decrease costs, improve equity in terms of access, ease administrative challenges, and improve overall health. Most discussions of pharmacare assume a concordance between these major ideas; however, opioids are a clear outlier in that, while there are clear economic, equity, and administrative justifications for their inclusion, there may be negative health consequences. Most other analyses have missed this consideration by focusing primarily on examples of "drug-responsive" conditions, such as congestive heart failure and stroke. These four ideas can be applied to other challenging cases such as high-cost drugs, where equity, administrative, and health benefits do not accord with economic consequences.

Conclusion: Considering the counterfactual case of opioids is a useful method for discerning the difficult to distinguish, and thus often conflated, ideas informing pharmacare. Mapping drug classes against this matrix of four ideas will help to identify areas of ideational conflict which are potential hotspots of unintended consequences from pharmacare implementation.

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Author: Deanne Taylor

Title: Interaction of resident quality of life with policies that govern staff: A four-province comparison of Long-Term Care policy using a staff perspective

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Canada has one of the most regulated long-term care (LTC) systems in the world. Regulations promote good quality for people living in care; however, gaps in policy can manifest as a failure to uphold what really matters. The key objective of this paper by our research team within SALT (Seniors: Adding Life to Years) is to assess the complex interplay of LTC policies that influence quality of life (QOL) at end of life in LTC.

Approach: We have analyzed 160+ relevant policies from BC, AB, ON and NS using a hermeneutics content analysis approach. Each document was categorized by specificity to LTC, and degree of legal obligation against a 6 level scale. Next, to assess the QOL elements, each policy was examined using Kane's (2001) 11 domains for measuring QOL from four perspectives. Using key words to identify staff, policy excerpts were extracted and analyzed to assess the characteristics and portrayal of resident QOL.

Results: Results demonstrate differences among each province's high legal obligation policy documents in terms of types of language used to identify various people in LTC, explicit aims of policy as cited to the reader rather than how policy manifests in reality, tone of policy, and geographical contextual variations when considering resident preferences within 11 domains: safety/security, physical comfort, enjoyment, meaningful activity, relationships, functional competence, dignity, privacy, individuality, autonomy/choice, and spirituality as a quality of end of life consideration.

Conclusion: We highlight differences among the 4 provinces and the implications of these findings in terms of how resident quality of life at end of life is considered from a regulatory staff perspective.

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Author: Eric Tchouaket

Title: Costs of nurse-sensitive adverse events in Quebec

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Recent changes in the worldwide economic and financial contexts have made the cost of patient safety a topical issue. Yet, our knowledge about the economic burden of safety of nursing care is quite limited in Canada in general and Quebec in particular. The aim of this study was to assess the economic burden of nurse-sensitive adverse events in 22 acute-care units in Quebec by estimating excess hospital-related costs and calculating resulting additional hospital days.

Approach: Retrospective analysis of charts of 2699 patients hospitalized between July 2008 - August 2009 for at least 2 days of 30-day periods in 22 medical-surgical units in 11 hospitals in Quebec. Data were collected from September 2009 to August 2010. Nurse-sensitive adverse events analysed were pressure ulcers, falls, medication administration errors, pneumonia and urinary tract infections. Costs were calculated in 2014 Canadian dollars. Additional hospital days were estimated by comparing lengths of stay of patients with nurse-sensitive adverse events with those of similar patients without nurse-sensitive adverse events.

Results: This study found that five adverse events considered nurse-sensitive caused nearly 1300 additional hospital days for 166 patients and generated more than Canadian dollars 600,000 in excess treatment costs. Specifically, for the 42 cases of pressure ulcers, the median excess cost of treatment would be between \$394,094 and \$476,372, based on discount rates of 3% and 8%, respectively. Similarly, for the 42 cases of falls, it would be between \$39,521 and \$47,772; for the 29 MAEs, between \$50,840 and \$69,563; for the 23 cases of pneumonia, between \$67,011 and \$94,746; and for the 47 cases of UTIs, between \$61,490 and \$81,719.

Conclusion: The results present the financial consequences of the nurse-sensitive adverse events. Government should invest in prevention and in improvements to care quality and patient safety. Managers need to strengthen safety processes in their facilities and nurses should take greater precautions.

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Titre: Développement et validation d'une grille d'observation « temps-mouvement » de mesure des coûts des pratiques cliniques préventives en prévention et contrôle des infections nosocomiales

Type d'abstrait: Oral Presentation: Standard

Objectifs: Les infections nosocomiales (INs) constituent l'un des principaux accidents de soins évitables. Dans son plan d'action 2015-2020, le Ministère de la santé du Québec souhaite évaluer les coûts, les effets et la rentabilité du programme de prévention et contrôle des infections nosocomiales (PCI). Cette étude s'inscrit dans cet optique et vise à développer, valider et mettre à l'essai une grille d'observation de mesure des coûts des pratiques cliniques exemplaires (PCE) associées à la PCI.

Approche: Développement de la grille : Recension des écrits sur les PCE en lien avec la PCI : hygiène des mains ; hygiène et salubrité ; dépistage des INs (DACD, SARM, ERV et BGNPC) ; et précautions additionnelles.

Validation : Approche Delphi. Sélection raisonnée de 18 experts selon leurs expertises théoriques et cliniques en PCI. Mise à l'essai : Étude pilote dans deux unités médecine et chirurgie du CISSS des Laurentides et deux du CIUSSS du Saguenay Lac Saint Jean.

Résultats: Développement d'une grille implémentée à l'aide d'une application web/mobile @néPCI. Cette grille comprend six rubriques : caractéristiques sociodémographiques de la personne observée ; zone ; précautions additionnelles ; hygiène des mains ; port ou retrait de l'équipement de protection ; hygiène et salubrité. Suivie de la pratique de PCI de 3 infirmières, 3 infirmières auxiliaires, 3 préposés aux bénéficiaires, et 3 préposés à l'hygiène et salubrité de ces unités durant le quart de jour et de soir. Le temps mis est noté à l'aide d'un chronomètre automatique intégré. Les produits et matériels utilisés sont systématiquement notés. Le coût du dépistage des INs sur une période d'observation d'un mois ainsi que le coût des activités de formation en PCI ont été calculés.

Conclusion: La grille d'observation construite et validée mérite d'être utilisée pour évaluer les coûts des PCE en PCI dans les hôpitaux du Québec. Cette analyse des coûts du programme PCI renseigne sur les bienfaits d'investir et de renforcer des stratégies de planification et de gestion en prévention des infections.

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ID: 138

Author: Trevor Tessier

Title: Scabies outbreak

Type of Abstract: Oral Presentation: Standard

Background: Scabies in facilities such as long term care and hospitals across the world is minimally documented and has a low number of cases in the geriatric populations making it difficult to detect and deal with. In Eston, Saskatchewan on November 26th, 2018 a month before Christmas an "itchy skin manifestation" with a few cases of scabies were confirmed necessitating an outbreak.

Objective: To inform how we dealt with the outbreak and where to improve.

Approach: Is to explore alternative methods to the declaration of an outbreak and what could be involved in creating a more conducive environment to earlier recognition and earlier prevention of contagious diseases. Further, the exploration of management principals on the handling of staff during these situations where time is of the essence.

Results: My intended results would be to find the most efficient system for handling and dealing with outbreaks or tentative outbreaks that have been used elsewhere and apply them to the Saskatchewan/Canadian system. Ideally, this would be considered on a provincial level to refine the process as the Saskatchewan Health Authority undergoes organizational change.

Conclusion: Due to the previous regional-based approach in Saskatchewan, a new provincial based approach adopted early could allow for the faster more consistent framework on how to deal with outbreak situations potentially increasing response times and improving patient care while maintaining communication.

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Author: Vidhi Thakkar

Title: What roles do primary care patients wish to play in treatment decisions?: Thematic Analysis of Semi-Structured Interviews with Patients

Type of Abstract: Oral Presentation: Standard

Background and Objectives: What role do patients wish to play in making healthcare decisions? Does the increased availability of on-line health information mean patients wish to make their own decisions? How is this related to the doctor-patient relationship? Building on a survey of primary care patients to determine relationships between their preferred roles in treatment decisions, e-health literacy and trust in their physician which was presented at the CAHSPR 2018 meeting, we explored patients views on these questions.

Approach: We conducted semi-structured qualitative interviews with a sub-set of the patients surveyed in a primary care clinic at a tertiary care hospital in Toronto, ON who had consented to participate in follow-up interviews. Thematic saturation was reached with 11 patients. All interviews were conducted by phone, audio recorded, and transcribed. Thematic analysis was conducted using a common codebook; two researchers independently coded a sub-set of surveys to validate the themes. Responses were linked to survey results, but the participants were de-identified for the purpose of thematic analysis.

Results: Although this sample had high levels of e-health literacy and trust in their physician, most preferred a shared role in decision-making; none wanted an autonomous role. Key themes included the importance of communication and trust in the patient-physician relationship; factors that influenced trust included clear communication, and belief they had received an accurate diagnosis and appropriate treatment and follow-up. Although patients sought information on-line, they then asked their physician to help evaluate the credibility of this health information. Patients said they trusted physicians who took the time to listen to them during the appointment, communicated openly about treatment options, explained medication side effects, referred to specialists when needed, and followed-up by phone or email when laboratory results become available.

Conclusion: Seeking on-line information did not replace with relying on physician expertise; these patients wanted a shared role but relied heavily on their physicians to help evaluate the credibility of online information, and to recommend treatments. Even in this era with increased online information, trust and communication were key.

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Author: Helen Thi

Title: Improving Collaboration in Times of Crisis: Integrating Physicians in Disaster Preparedness and Health Emergency Management in British Columbia

Type of Abstract: Oral Presentation: Standard

Background and Objectives: No area in British Columbia is immune from hazards. These events, including earthquakes, wildfires, pandemics, and other mass casualty incidents, can occur at any time, causing serious harm to people's safety and health. Physicians play a critical role in saving lives and reducing health-related harms when disasters strike. The objectives of this physician-led initiative were to develop policy on integrating physicians in disaster preparedness planning and foster collaborative relationships with emergency management partners in BC.

Approach: Through the guidance of a working group, a two-pronged approach was used to develop a policy paper. An extensive literature review and environmental scan were conducted to understand health emergency management planning in BC, including physicians' roles before, during, and following emergencies, and approaches taken in other jurisdictions. Building on the learnings of the environmental scan, physicians and key stakeholders were engaged through surveys and meetings to identify barriers to physician involvement in health emergency management planning and opportunities to better integrate physicians in these activities.

Results: There are a number of barriers to physician participation in health emergency management planning in BC. Provincial emergency response frameworks only discuss the roles of some physicians, such as medical health officers. Such frameworks do not reference the roles of all physicians, including hospitalists and community-based physicians, prior to, during, and following emergencies. Consultation with physicians and stakeholders in emergency management also reveal that inadequate funding and compensation is a barrier to physician participation in broader disaster preparedness planning. Lastly, as disaster medicine often receives little attention during medical training in Canada, it is important to build physician capacity in health emergency management to support their participation in disaster preparedness planning and other emergency management activities.

Conclusion: There are opportunities for improved integration of physicians in health emergency management activities across BC. This includes building physician capacity and engaging interested clinicians early in the disaster planning process to foster collaborative relationships between physicians and emergency planners. Lessons learned from this policy initiative are applicable to other jurisdictions.

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Author: Patrick Timony

Title: Exploring the Impact of Linguistic Concordance and the Active Offer of French Language Services on Patient Satisfaction in Northern Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite the breadth of available community-based health and social resources, gaps in access to these resources remain. Notably, individuals with complex social barriers are limited in their ability to access services when they need them. A patient-centered navigation model may help to improve equitable Access to Resources in the Community (ARC) for primary care patients. The model was co-developed by researchers in partnership with regional health planners, primary and community care providers and patient representatives.

Approach: We introduced the ARC navigation model in two types of primary care practices: an interprofessional Family Health Team (FHT) and a non-interprofessional Family Health Organization (FHO). Providers completed a standardized referral form with their patients to identify needs for health-enabling resources. Referrals were faxed to the ARC navigator who then helped the patient overcome barriers to accessing the appropriate community resource and reported back to the provider. The ARC navigator was at the practice weekly to meet with patients and consult with providers. We surveyed providers about their experience with the ARC model at the end of their participation.

Results: 22 FHT providers and 13 FHO providers consented to participate. FHO providers completed 101 referrals, whereas FHT providers completed only 30. Of those surveyed at the end of the study (8 FHT and 10 FHO), 8 FHO and only 5 FHT providers said they were interested “a great deal/quite a lot” in continuing to use the intervention. The implementation of the ARC navigation model was perceived to be smoother among FHO providers (7) compared to FHT providers (2), and the services offered by the navigator met the expectations of more FHO providers (9) compared to FHT providers (4). Finally, more FHO providers (6) thought that the ARC navigation model improved their patients’ access to care “a great deal/quite a lot” compared to FHT providers (1).

Conclusion: Our findings indicate that the ARC navigation model may be more acceptable in non-interprofessional practices, perhaps because they do not have access to a multidisciplinary team that would enable more comprehensive care. A randomized controlled trial is underway to test the ARC navigation model more rigorously and across different settings.

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Author: Kylie Tingley

Title: Developing recommendations for evidence generation, evidence synthesis, and knowledge translation in the context of rare diseases

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Due to small and heterogeneous patient populations and uncertain natural history, evidence on the effectiveness of treatments for rare diseases is difficult to generate. The scarcity of evidence creates challenges for stakeholders (patients/families, clinicians, policy advisors) who make decisions about the use, prescription, or funding of such treatments. We aimed to incorporate stakeholders' needs and views into recommendations to guide future evidence generation, evidence synthesis, and knowledge translation for rare disease interventions.

Approach: We used a meta-narrative literature review to better understand the perceived challenges in generating robust treatment effectiveness evidence, and to describe various research methods for mitigating these identified challenges. In addition, we conducted focus group interviews with key rare disease stakeholders (patients/family members, physicians, and policy advisors) to elicit different perspectives on how evidence is generated, evaluated, and synthesized in the context of health care decision-making, both at a personal and health system level. These data were used to inform the development of recommendations to improve evidence generation, evidence synthesis, and knowledge translation for rare diseases.

Results: Our data revealed three fundamental challenges in generating robust treatment effectiveness evidence for rare diseases: limitations in recruiting a sufficient sample; inability to account for clinical heterogeneity; and reliance on outcomes with unclear clinical relevance. Focus group participants identified several considerations for evaluation and synthesis of evidence, including: evidence standards for incremental versus transformative interventions, understanding natural history, and addressing patient-oriented outcomes. Participants also identified approaches for managing uncertainty when generating, evaluating and using evidence for decision-making at individual and population levels. For example, some participants suggested that approval with continued evidence development would help reduce uncertainty around natural history and longer term treatment effects. Recommendations aim to tailor the approach to evidence generation and synthesis to meet the specific decision-making needs of relevant stakeholders.

Conclusion: Tailoring evidence generation, synthesis and knowledge translation for treatments for rare diseases to meet the specific decisional needs of relevant stakeholders may reduce the most important aspects of uncertainty. This in turn may improve the quality of decision-making regarding the development, use, and reimbursement of rare disease treatments.

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Author: Selma Tobah

Title: The Experiences of Arabs in Receiving Health Services

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Considering the political climate, the popularized depiction of Arab Orientalist stereotypes, and the impact of racial biases in the provision of health services, the purpose of this systematic review was to understand the experiences of Arabs upon their receipt of health services, as well as the perspectives of service providers of Arab patients, post-September 11, 2001.

Approach: The databases of PubMed, CINAHL, Scopus, and Embase, Social Work Abstracts, and Social Services Abstracts, were searched for articles conducted in English in Canada, the UK, USA, and Australia, using search terms of: Arabs; healthcare services; access; cultural humility; cultural competence; healthcare; social services; discrimination. These terms were searched using keyword and database specific terms, searching anywhere in the article (ie title, abstract, body of the article). Citation chaining as also conducted using Google Scholar in order to conduct a hand search of any possible relevant scholarly articles. A narrative synthesis was conducted to analyze results.

Results: After the initial removal of duplicates, title screening, and abstract reviewal, a total of eight articles were found to be relevant with another four articles found from the citation chaining process. This led to a total of 12 sources addressing the research question. Seven articles were from the perspective of Arab patients and 5 from that of service providers. Three major themes emerged: 1) linguistic/cultural differences as a barrier to giving/receiving proficient care, along with the benefits and detriments of using interpreters or service providers of the same linguistic/cultural background; 2) the experience of perceived discrimination and racism; 3) cultural competency and the training/ characteristics of service providers in administering culturally competent care.

Conclusion: The findings present important considerations when servicing an Arab population. The review furthers the conversation on cultural competency training, the risk of stereotyping in this approach, and the benefits of shifting to 'cultural humility'. Gaps still exist in exploring the impact of perceived discrimination on this population in seeking care.

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Author: Joan Tranmer

Title: Evaluation of organizational attributes of primary care integration strategies for adults with multiple chronic health conditions: A systematic review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: There is a poor understanding of the organizational attributes of system-level primary care integration strategies associated with optimal outcomes for patients. Our review objectives were to: (1) identify and assess the quality of the evidence determining the impact of primary care based integration strategies on patient outcomes for adults with multiple chronic conditions; and (2) identify and synthesize common organizational attributes of effective integration strategies.

Approach: We conducted a systematic review, following Cochrane methods utilized by the Cochrane Public Health Group (CPHG). The primary outcome was clinical effectiveness, as determined through clinical and self-reported patient outcomes. Secondly, we examined the impact on health utilization and costs. The independent variables were primary care based organizational strategies that included integration of services across a minimum of 2 practice sectors for individuals with at least 2 chronic conditions. The effect of each integration strategy and attributes within each strategy were synthesized and assessed using harvest plot methods.

Results: We identified 2091 abstracts; reviewed 583 full-text articles; and identified 32 articles that met the inclusion criteria. Studies were conducted in the USA (33%), Canada (19%), Australia (13%), Italy (13%), Netherlands (13%), France (3%), Scotland (3%), and United Kingdom (3%). After assessment for quality with the CPHG tool, 24 studies were further excluded due to low-quality, leaving 16 studies of moderate-strong quality for synthesis. Patient outcomes assessed included self-reported changes in health and functional status (39%), utilization of health services (32%), costs of health services (23%), and clinical indicators (6%). Results suggest that integration strategies that include higher numbers of organizational attributes, particularly care coordination strategies, are generally related to better outcomes.

Conclusion: Care coordination, active physician involvement, and information-sharing mechanisms are critical attributes of integration strategies. Given the complexity of both integration mechanisms and the health system, we postulate that effective integration includes incorporation of multi-component interventions across sectors of care with appropriate organizational and system level supports.

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Author: Joan Tranmer

Title: A Profile of Older Adults Cared for by Nurse Practitioners and Family Physicians in Ontario, 2000-2015: A Retrospective Cohort Study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Nurse practitioners (NPs) are now an integral component of healthcare delivery in Ontario. Evidence supports NP safety, effectiveness and role development; yet, minimal information exists regarding the patients cared for by Ontario NPs. To address this knowledge gap, we used Ontario health administrative databases to identify the sociodemographic characteristics and comorbidities of patients 65 years and older cared for by NPs and family physicians (FPs) between 2000 and 2015.

Approach: This descriptive retrospective cohort study included patients ≥ 65 years with Ontario Health Insurance Plan (OHIP) eligibility and at least one prescription encounter with a NP or FP during the study period. Prescription identification permitted patient characterization by age, sex, geographical location, neighbourhood income, and comorbidities. Each prescription dispensation date with the same provider was counted as one encounter. Total number of encounters with NPs and FPs were calculated for each patient in each study year. Patients within each study year were assigned to a provider group (NP, FP, and shared care) based on the percentage of encounters.

Results: Across the study period, the mean number of prescription encounters rose across all provider groups, with the largest rise in the shared provider group. By 2015, older patients cared for by NPs were typically between 65-69 years of age (40%), female (59%), and residents of low-income neighbourhoods (44%) living outside of central Ontario. Among patients cared for by NPs, 37% lived in rural Ontario. Elixhauser comorbidity scores were consistently lower among patients cared for by NPs than those predominantly seen by FPs or in shared care models. Most prevalent conditions were hypertension and diabetes, regardless of provider. There was variation across provincial regional networks in the distribution of patients cared for by the different provider groups.

Conclusion: NPs are an integral component of care. They provide care to patients with similar clinical characteristics; however, there is substantial geographical variation in the utilization of NPs. Ascertaining the right mix of providers and models of care that fully utilize all team members to provide comprehensive services, without duplication,

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Author: Luke Turcotte

Title: Functional Outcomes Following Rehabilitation in Ontario Complex Continuing Care Hospitals

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The MDS 2.0 comprehensive health assessment is used in Ontario Complex Continuing Care (CCC) hospitals to support clinical decision-making and measure quality of care. Given that a discharge assessment is not required, little is known about the amount of functional gain that patients achieve in this care setting. The objective of this study was to characterize patterns of recovery and to identify factors that are associated with functional gain following rehabilitation in CCC.

Approach: A retrospective study of 30,924 patients admitted to Ontario CCC hospitals between January 1st, 2010 and March 31st, 2015 was performed. In the absence of a discharge assessment, the MDS 2.0 assessment completed at admission to CCC hospitals was linked with the next available MDS 2.0 or RAI-HC assessment completed in hospital, residential long-term care, or community care. Change in functional status was measured by calculating the difference between admission and follow-up for summary measures of physical function. A series of multivariate linear regression models were fit to characterize the association of patient and process factors on functional gain.

Results: Significant functional gain between CCC hospital admission and follow-up was observed for most activities of daily living; however, patients that were discharged to community care achieved greater functional gain than patients that were receiving care in hospital or residential long-term care at follow-up. Patient-level factors that explained variance in functional outcomes included age, diagnosis group, cognitive status, and rehabilitation potential. Receipt of physical therapy was associated with functional gain; except, evidence of an attenuation of the mean effect of physical therapy beyond 135 minutes per week was detected when comparing pairwise differences of least squares means. Among only the least impaired patients, provision of occupational therapy was associated with functional gain in the adjusted models; however, more intensive therapy did not provide additional benefit.

Conclusion: Using comprehensive health assessments linked across adjacent health service settings, this was the first large study of functional outcomes following rehabilitation in Ontario CCC hospitals. Findings from this study suggest that there are opportunities to establish therapy intensity eligibility criteria in CCC and other post-acute rehabilitative care settings.

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Author: Robin Urquhart

Title: How scientific evidence is used to adopt complex innovations in cancer care: a multiple-case study from Nova Scotia, Canada

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Health care delivery and outcomes can be improved by using innovations (i.e., new technologies and practices) supported by scientific evidence. However, scientific evidence may not be the foremost factor in adoption decisions. We sought to examine the role of scientific evidence in decisions to adopt complex innovations in cancer care.

Approach: Using an explanatory, multiple case study design, we examined the adoption of complex innovations in five purposively-sampled cases in Nova Scotia, Canada. Cases were sampled to obtain variation on three criteria: (1) type of innovation, (2) evidentiary base, and (3) contextual factors (e.g., setting, timing, individuals involved). Data were collected via documents and key informant interviews. Data analysis involved an in-depth analysis of each case, followed by a cross-case analysis to develop theoretically informed, transferable knowledge on the role of scientific evidence in innovation adoption that may be applied to similar settings and contexts.

Results: Across the five cases, data were collected from 32 key informants and >100 documents. The analyses identified key concepts alongside important caveats and considerations. Key concepts were: 1. scientific evidence underpinned the adoption process; 2. evidence from multiple sources informed decision-making (scientific evidence, clinical experience, local data, patient experience, and information from other jurisdictions); 3. decision-makers considered three key issues when making decisions (expected budgetary and operational implications, expected impact on patients, and equitable access to care); and 4. champions were essential to eventual adoption. Caveats and considerations were: 5. urgent problems may compel innovative solutions; 6. short-term financial pressures may expedite decisions; and 7. adopting later in time (relative to peer organizations) minimizes risk.

Conclusion: The findings revealed the different types of issues decision-makers consider while making these decisions and why different sources of evidence are needed in these processes. Future research should examine how different types of evidence are legitimized and why some types are prioritized over others.

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Title: Risk Screening at Veterans Affairs Canada: Pilot testing the tool

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Veterans Affairs Canada (VAC) has developed a nine-item risk screening tool to consistently screen Veterans for risks associated with difficult adjustment to life after service, functional decline, caregiver burnout, institutionalization, and other difficulties across multiple domains of well-being. This tool was then pilot tested on Veterans across Canada in order to evaluate its effectiveness at triaging clients to the appropriate level of care such as case management, guided support, or self-management.

Approach: The pilot study was conducted in five pilot sites across Canada. Veterans who contacted VAC at these sites were asked to participate in the administration of the nine-item risk screening tool. Frontline staff evaluated their administration of these questions. A week later, participants were contacted again by a different staff person and asked to participate in a follow-up series of questions, designed to assess their complexity of care and intensity of needs. Both stages of the pilot were completed by 246 Veterans. Using both stages, expert reviewers were asked to triage 91 of these participants.

Results: The high prevalence (85%) of activity limitations among VAC clients eliminated this question. Expert reviewers relied on several follow-up questions to triage clients to the appropriate level of care. These questions were added to the screening tool: regular family doctor, visit for mental health, frequency of alcohol consumption, and mastery. Frontline staff had difficulty asking questions that required a 5 category response, therefore the satisfaction and mastery questions were re-formatted to a dichotomous scale. "Low risk" was assigned to a score of 0-1, and triaged to targeted assistance; "moderate risk" scored 2-4, and triaged to guided support; and "high risk" scored 5+, and triaged to case management.

Conclusion: In 2019, VAC will implement a new screening tool to document the screening process. VAC's screening tool standardizes the data collected to ensure consistency and continuity of Veteran information to provide services and referrals. Future versions of the tool will need to address the limited outcome data available for Veterans

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Author: Kerry Waddell

Title: Citizen and stakeholder insights on preventing and managing infectious disease among people who inject drugs in Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Injection drug use is associated with a range of infectious diseases that are not being optimally prevented, treated or managed by health or social systems. This points to a need for a person-centred approach across health and social systems to support the prevention and coordinated treatment of infectious disease through access to low-barrier care in common community points of contact and to specialized and integrated treatment for infectious disease, addictions, and/or concurrent mental-health problems.

Approach: In February 2019 we will convene a citizen panel and stakeholder dialogue with Ontario policymakers, stakeholders and researchers. A diverse group of 7-8 citizens for the panel that have previous experience with injection drugs, as well as 7-8 peer-outreach workers were recruited for the panel. Participants were sent a citizen brief that outlined evidence about the issue, three elements of a potentially comprehensive approach to address it and implementation considerations. Key findings from the panels were included in an evidence brief (a more detailed version of the citizen brief) that was sent to participants in advance of the stakeholder dialogue.

Results: We have packaged the best-available global and local research evidence on the challenges regarding preventing, treating and managing infectious disease among people who inject drugs in a plain-language citizen brief. Throughout the citizen panel those who have previous experience with injecting drugs, including peer-outreach workers, will share their experiences in receiving care in the health and social systems to make informed judgements about how to address existing challenges. Following the panel, the stakeholder dialogue will convene health and social-system leaders such as policymakers, stakeholders and researchers in deliberations and identifying actions that can take action towards strengthened efforts for preventing and managing infectious disease among people who inject drugs. The panel and the dialogue will be thematically analyzed.

Conclusion: Our findings will support policymakers, stakeholders and researchers with the best-available research evidence, citizens' values and preferences and insights from leaders about actions that are needed to champion change towards addressing one of the most pressing issues in the country.

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Title: Policies Influencing Health and Social Services for Women Who Have Experienced Intimate Partner Violence in Rural Ontario: A Critical Discourse Analysis

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Intimate partner violence (IPV) is a significant health concern and prevalent issue in Canada that is associated with negative consequences for women's physical and mental health as well as substantial financial costs. Women who have experienced IPV face many barriers to accessing necessary health and social services. This study examined the influence of provincial, hospital, and women's shelter policies on health/social services utilization in rural southwestern Ontario.

Approach: A case study using a critical discourse analysis was undertaken using a critical, feminist, intersectional lens. This study focused on publicly available policies that impacted a rural Ontario community including the Domestic Violence Action Plan for Ontario and local rural women's shelter policy. The aim was to include the local hospital policy but no relevant policy was available. The team became immersed in the policies and independently engaged in open and axial coding, categorization, and the discovery of themes guided by Fairclough's framework for identifying problems, obstacles, function of the problems, ways past the obstacles, and reflection.

Results: The policies examined offered substantial strategies for supporting women who have experienced IPV; however, considering the complicated and multifaceted essence of this issue, several concerns were identified. Through analysis, the following themes regarding the interaction of the policies were uncovered: (1) problems: missing link between policies, (2) obstacles: ambiguity in perspective, disconnectedness in training goals, affirmative action required, absence of hospital policy, (3) function of the problem: working in silos, and (4) ways past the obstacles: need for hospital policy to bridge the gap between provincial and women's shelter policies.

Conclusion: Work is needed to address discrepancies between provincial and rural women's shelter policies to ensure the needs of women are meaningfully addressed. Through promoting the creation of hospital policy and the integration of health and social services, women's needs may be more appropriately and fully met in the future.

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Title: Workplace Bullying in Nursing: The Role of Authentic Leadership

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Registered nurses experience concerning levels of workplace bullying, which has been shown to be associated with negative implications such as increased nurse burnout and higher job turnover intentions. The objectives of this study were twofold: (1) examine the effect of managers' authentic leadership on workplace bullying among experienced registered nurses and (2) assess whether the preceding relationship is mediated by nurses' psychological capital (i.e., self-efficacy, optimism, hope, and resiliency) and a professional practice environment.

Approach: This study was cross-sectional and nonexperimental in nature. Four hundred experienced registered nurses (defined as having ≥ 3 years of service) were randomly sampled from each of Alberta, Nova Scotia, and Ontario for a total of 1,200 potential participants. Standardized questionnaires were mailed to the home addresses of participants obtained from the registered nurse regulatory bodies. A modified Dillman data collection process was used, and a response rate of 39.8% ($N = 478$) was obtained. PROCESS, an SPSS macro, was utilized to test the hypothesized mediation model.

Results: The majority of participants were female (91.6%), held a bachelor's degree (50.5%), and were employed full-time (54.9%). Moderate authentic leadership and relatively infrequent workplace bullying were reported. Males reported higher workplace bullying than females, and participants with graduate degrees reported higher workplace bullying than those with bachelor's degrees. Managers' authentic leadership was negatively related to workplace bullying as well as positively associated with nurses' psychological capital and professional practice environment. Meanwhile, professional practice environment was negatively associated with workplace bullying. The relationship between authentic leadership and workplace bullying was mediated by professional practice environment but not psychological capital. The model under investigation explained 23.2% of the variance in workplace bullying.

Conclusion: Healthcare administrators and policymakers working toward preventing and reducing workplace bullying among registered nurses should consider strategies related to influencing leader behaviours. Human resources professionals in healthcare organizations may find using authentic leadership as a framework to guide the hiring and training of managers to be a valuable endeavour.

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Author: Melissa Wan

Title: High Risk Plastic Surgery: An Analysis of 108,303 Cases from the American College of Surgeons National Surgical Quality Improvement Program

Type of Abstract: Oral Presentation: Standard

Background and Objectives: There is a lack of large-scale data that examines complications in plastic surgery. A description of baseline rates and patient outcomes allows better understanding of ways to improve patient care and cost-savings for health systems. Herein we determine the most frequent complications in plastic surgery, identify procedures with high complication rates, and examine predictive risk factors.

Approach: A retrospective analysis of the 2012-2016 American College of Surgeons National Surgical Quality Improvement Program (NSQIP) plastic surgery dataset was conducted. Complication rates were calculated for the entire cohort and each procedure therein. Microsurgical procedures were analyzed as a subgroup, where multivariate logistic regression models determined the risk factors for surgical site infection (SSI) and related reoperation.

Results: We identified 108,303 patients undergoing a plastic surgery procedure of which 6,264 (5.78%) experienced any complication. The outcome with the highest incidence was related reoperation (3.31%), followed by SSI (3.11%). Microsurgical cases comprised 6,148 (5.68%) of all cases, and 1,211 (19.33%) experienced any complication. Similar to the entire cohort, the related reoperation (12.83%) and SSI (5.66%) were common complications. Increased operative time was a common independent risk factor predictive of a related reoperation or development of an SSI ($p < 0.001$). 23.3% of microsurgeries had an operative time larger than 10 hours.

Conclusion: The complication rate in plastic surgery remains relatively low but is significantly increased for microsurgery. Increased operative time is a common risk factor. Two team approaches and staged operations could be explored, as a large portion of microsurgeries are vulnerable to increased complications.

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Author: Fiona Warde

Title: Rendering Visible: Is Medical Education Inclusive of LGBTQ+ Health?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: To achieve health equity for LGBTQ+ communities, medical professionals must be equipped with the knowledge and skills to work effectively with these populations. To achieve this, LGBTQ+ health topics must be included in undergraduate medical training. This scoping review investigates the training and education pertaining to LGBTQ+ health that is provided to undergraduate medical students to explore the extent to which Canada's next generation of doctors is equipped to provide care to these diverse communities.

Approach: Using the scoping review methodology proposed by Arksey & O'Malley (2005), we searched five databases: ERIC, Web of Science, MEDLINE, PsycINFO, and EMBASE. The search strategies were developed with, and approved by, a health reference librarian, who also assisted with the development of the inclusion and exclusion criteria. Search results were imported into Covidence for assessment, inter-rater reliability of both title and abstract review, as well as at full text review. There was greater than 80% agreement on the papers that met the inclusion criteria.

Results: A total of 5,143 papers were identified across five databases, after removing duplications. Of those 51 met inclusion criteria following Title and Abstract screening, within which only four related directly to the Canadian context. Following Full text screening, 21 papers met inclusion criteria of which 1 related directly to the Canadian context.

Conclusion: LGBTQ+ health is underrepresented in undergraduate medical curricula, leaving physicians unprepared to work effectively with LGBTQ+ populations; particularly in specialties where sexual orientation and/or gender identity do not contribute to patient's presenting medical complaints. We therefore propose establishing LGBTQ+ health education as an accreditation standard for undergraduate medical programs.

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Title: Results from a systematic review patient-oriented strategies that community-based self-management programs use to help older adults manage chronic conditions

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Self-Management Programs (SMP) can teach strategies to help older adults improve their ability to deal with the medical, role, and emotional management of their chronic conditions. Our team developed a framework of self-management strategies patients find important when managing a chronic condition. The objective of this systematic review was to identify which patient-oriented strategies were taught to older adults in community SMPs and whether including them in programs led to significant outcome differences

Approach: The review included randomized controlled trials (RCTs) and cluster RCTs reporting on community-based SMPs for older adults with chronic conditions that included a group component. All study outcomes were reported. Nine electronic databases were searched with the help of a librarian, and results were screened using relevancy assessment worksheets at the title/abstract and full text screening stages using Covidence review software. A coding protocol and code definitions based on the patient-oriented framework were developed in order to guide data extraction. Outcome measures were also coded and results tabulated. Risk of bias was assessed. Decisions were made by consensus.

Results: Of 17,530 studies identified, 31 met the inclusion criteria. Most SMPs included older adults with specific conditions. Only three were not condition-specific; none addressed multimorbidity. The most common strategies included improving awareness or problem solving, physical exercise, medication management, and controlling disease complications. Less common strategies included helping participants seek and manage health/social care needs and improving social interaction. Seventy-nine percent reported significant differences; variations in sample sizes and outcomes assessed made it difficult to conclude whether incorporating patient-oriented strategies led to significant differences. While studies assessed a range of outcomes, the most common were improvements in health behavior, controlling disease, and quality of life. The number of strategies included was not associated with statistically significant outcomes. Studies rarely assessed use of strategies.

Conclusion: SMPs are not addressing multimorbidity, incorporating strategies to improve the impact of chronic conditions on everyday lives, nor assessing outcomes that align with strategies taught. SMP programs should be tailored to the needs of older adults and assess whether participants are using strategies being offered.

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ID: 396

Author: Colin Weaver

Title: Machine learning for clinical prediction: for which problems might it be most useful?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Regression and machine learning methods can both be used to develop clinical prediction models. These provide diagnostic or prognostic estimates for individual patients which can, among other things, inform treatment decisions. Although few machine learning-based models are currently used, there is optimism surrounding their potential impact. The objective of this presentation is to discuss characteristics of the clinical context and data which should inform the decision to use machine learning for a given prediction problem.

Approach: This narrative review synthesizes, critiques, and discusses relevant literature. Included are the most recent reviews and frameworks on the development, validation, and evaluation of clinical prediction models as well as opinion pieces on the application of machine learning for clinical prediction. A clinical example will be used to illustrate these concepts: predicting the risk of coronary heart disease to inform the decision to use lipid-lowering medications.

Results: Three key considerations for the use of machine learning were identified. 1) Acceptability. Machine learning methods are often challenging to interpret. 2) Importance of accuracy. Greater accuracy (often realized with machine learning) is always preferred but may be less important if there is not a direct connection between accuracy and health outcomes: the predictions might be used alongside other considerations to make treatment decisions (e.g., patient preferences) or factors other than diagnosis/prognosis may influence response to treatment. 3) Characteristics of the data and prediction problem. Machine learning methods are more flexible and are expected to perform particularly well when: the sample size is large, there are a large number of predictors (e.g., an image), or the anticipated relationship between predictors and outcome is complex.

Conclusion: These considerations will help researchers decide whether machine learning methods might be appropriate for a given clinical prediction problem. Before implementing a machine learning or regression-based clinical prediction model one should ideally have evidence that compared with standard of care it is more accurate and improves health and/or cost outcomes.

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Author: Colleen Webber

Title: Evaluating hospital-to-community transitions for palliative care patients: A retrospective cohort study of healthcare utilization and place of death in patients discharged from inpatient palliative care in Ottawa, Ontario

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patients receiving inpatient palliative care may be discharged to the community when clinically appropriate and when adequate supports are in place to manage their care in the community. Most patients prefer to receive care and die in the community, and good transitional care planning can help patients achieve those goals. The objective of this study was to describe the outcomes of patients discharged from an inpatient palliative care unit in Ontario.

Approach: We conducted a single-institution retrospective cohort study using institutional medical record data linked to regional acute care hospital and home care data. Study participants included all patients discharged to the community from a 31-bed inpatient palliative care unit in an academic continuing care facility in Ontario between January 1 and December 31, 2015. Outcomes post-discharge included survival, acute care hospital admissions or emergency department (ED) visits within 30 days of discharge, and place of death. Analyses described models of physician palliative care delivered post-discharge and examined the determinants of outcomes according to patient demographics, health status, and healthcare characteristics.

Results: Seventy-eight patients were discharged to the community from the PCU over a one-year period. Discharged patients had poor prognosis, with over one-third having a Palliative Performance Score less than 50 at discharge. The median survival after discharge was 96 days and 36% of decedent patients died in an acute care hospital. Thirteen percent of patients were hospitalized and 23% visited an ED within 30 days of discharge, often for reasons that could have been managed in the community, such as pain or respiratory distress. Most patients received palliative care post-discharge, with varying models of care. Certain groups of patients were at greater risk of acute care use and in-hospital deaths, including younger patients, patients with non-malignant diseases, and patients discharged home versus long-term care.

Conclusion: Patients discharged from an inpatient palliative care setting are at risk of post-discharge acute care use, including hospitalizations, ED visits and in-hospital deaths, despite having community palliative care supports in place. Variations in outcomes can point to groups of patients who may require greater intensity of supports post-discharge.

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Title: Characterizing the intensity and timing of inpatient palliative care: A population-based retrospective cohort study of Ontario decedents admitted to hospital in the last year of life

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Seventy-four percent of Ontarians are admitted to an acute care hospital in the last year of life. These hospitalizations offer an opportunity to initiate palliative care or provide continuity with palliative care delivered prior to hospitalization. However, little information exists on the delivery of palliative care in hospitals. This study describes the intensity and timing of inpatient physician palliative care at the end of life.

Approach: We conducted a population-based retrospective cohort study of Ontario decedents who died between April 1, 2012 and March 31, 2017 with ≥ 1 acute care hospitalization in their last year of life. We captured inpatient physician palliative care using hospital discharge records and physician billing claims. We developed a hierarchy of the intensity of inpatient palliative care based on admission to an inpatient palliative care unit (PCU) and exposure to different levels and types of palliative physician services. Patient characteristics and the timing of inpatient palliative care prior to death were described according to the intensity of inpatient palliative care.

Results: We identified 331,251 decedents with 662,654 hospitalizations in the year before death. The inpatient palliative care hierarchy defined three levels of involvement: high intensity (4.7% of hospitalizations) if patients were admitted to inpatient PCUs; medium intensity (11.3%) if patients were admitted primarily for palliative care or had palliative care specialist involvement; and low intensity (17.8%) if patients received palliative care as a component, but not the focus, of care or had palliative care generalist involvement. Two-thirds (66.2%) of hospitalizations had no palliative care involvement. Over half (55.2%) of all inpatient palliative care and 94.0% of high intensity inpatient palliative care was delivered two months before death. Being female, age 55-74, living in urban areas, and having cancer were associated with high intensity palliative care.

Conclusion: Many Ontarians did not receive palliative care when hospitalized in the year before death, particularly early or high intensity palliative care. The hierarchy of inpatient palliative care intensity developed in this study will be used in subsequent work to evaluate the impact of inpatient palliative care on transitional outcomes.

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ID: 411

Author: Lori Weeks

Title: The Development of Continuing Care Client and Caregiver Satisfaction Tools

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Providing high quality publicly-funded home care to clients and their caregivers is a priority in Nova Scotia. The Nova Scotia Health Authority's Continuing Care program has engaged researchers at Dalhousie University to develop provincial surveys to measure satisfaction of continuing care clients and their caregivers. We will share the process we followed in the creation of the surveys, the surveys developed, and our insights about how those in other jurisdictions can learn from our experience.

Approach: The creation of initial surveys was informed through various sources including published peer-reviewed and grey literature, input from continuing care clients and their caregivers, surveys obtained within the province and from other jurisdictions, input from continuing care administrators, and accreditation standards. We created an Advisory Team to inform the development of the surveys that included home care clients and their caregivers and continuing care staff. We facilitated a modified Delphi approach involving several rounds of feedback including seeking input about the initial surveys from the Advisory Team, pilot testing of the surveys, and inviting input from home care providers.

Results: We will present categories included and examples within each category. Importantly, our surveys include the capacity to distinguish the management of care and the provision of care. We will highlight key items added through implementing the modified Delphi approach conducted with various stakeholders. For example, we identified priorities to include items that identify how the continuing care program has an impact on reduced suffering and how empathy is exhibited by care providers. We will also present how the results of the survey will be linked with health administrative data (e.g. health system usage) to inform future decision making about the provision of continuing care within the province. The results will inform the continued development of person and family-centred care in the province of Nova Scotia.

Conclusion: Our involvement of multiple stakeholders in the process of developing the surveys can inform other jurisdictions undertaking similar initiatives. Through developing a version of the survey for caregivers of continuing care clients, we recognize the crucial role they play in supporting continuing care clients. Future plans include conducting psychometric testing.

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Author: Sharada Weir

Title: Validation of CIHI's Population Grouping Methodology using Ontario data

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Until recently, the options for summarizing patient complexity in Canada were limited to health risk predictive modeling tools developed outside of Canada. This study aims to validate a new model created by the Canadian Institute for Health Information (CIHI) for Canada's healthcare environment.

Approach: Our study included the rolling population eligible for coverage under Ontario's universal provincial health insurance program in fiscal years (FYs) 2006/07-2016/17 (12-13 million per annum). To evaluate model performance, we compared predicted cost risk at the individual level, based on diagnosis history, with estimates of actual patient-level cost using 'out-of-the-box' cost weights created by running the CIHI software 'as is'. We next considered whether model performance could be improved by recalibrating the model weights, censoring outliers or adding prior cost.

Results: We were able to closely match model performance reported by CIHI for their FY 2010/11-2012/13 development sample (concurrent $R^2=48.0\%$; prospective $R^2=8.9\%$) and show that performance improved over time (concurrent $R^2=51.9\%$; prospective $R^2=9.7\%$ in 2014-16). Recalibrating the model did not substantively affect prospective period performance, even with the addition of prior cost and censoring of cost outliers. However, censoring improved concurrent period explanatory power for the FY 2014/15-2016/17 validation sample (from $R^2=53.6\%$, without censoring, to $R^2=66.7\%$, after censoring). We also found that the concurrent model performed best using 5-year prevalence of health conditions (i.e., a five-year look-back at diagnosis codes), whereas prospective model performance was optimized using a two-year look-back window.

Conclusion: We validated the CIHI model for two periods, FY2010/11-2012/13 and FY2014/15-2016/17. Out-of-the-box model performance for Ontario was as good as that reported by CIHI for the 3-province development sample (Ontario, Alberta and British Columbia). We found that performance was robust to variations in model specification, data sources, and time.

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ID: 124

Author: Sharada Weir

Title: Can CIHI's Canadian health risk predictive model be used to predict high-cost health system users?

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Numerous studies across health systems have established that a small proportion of users account for a disproportionate share of the public costs of healthcare. It would be useful to be able to predict risk of future high cost utilization at the individual level ahead of time. We evaluated the ability of a new health risk predictive model produced by the Canadian Institute for Health Information (CIHI) to discriminate in predicting future high cost cases.

Approach: The CIHI model was run to predict the relative risk of the next year's cost for each individual in the study population, and their actual costs for the prediction period were estimated. The ability of the model to predict high cost users was evaluated for selected percentiles of cost based on the sensitivity, specificity, positive predictive value and accuracy of the model. Next, we examined the prevalence of multimorbidity and identified particular health conditions found most commonly among the heaviest users of health services.

Results: Ten percent of the population (n=1.17 million) had annual costs exceeding \$3,050 per person in fiscal year (FY) 2016, accounting for 71.6% of total expenditures, five percent had costs greater than \$6,374, accounting for 58.2%, and one percent exceeded \$22,995, accounting for 30.5%. The CIHI model was 93.1% accurate at the 95% risk percentile in predicting the top 5% of cases in terms of cost. The c-statistic was 0.81 (strong). Prevalence of multimorbidity rose with both risk score and actual cost.

Conclusion: High cost users account for a staggering share of public expenditures on healthcare. We found that the CIHI model did a good job of predicting high cost users even though it was not designed for this purpose.

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ID: 609

Author: Marian Severin Wettstein

Title: System Learning from the Implementation of Quality-Based Procedures

Type of Abstract: Oral Presentation: Standard

Background and Objectives: In April 2011, the Government of Ontario announced the multi-year phased-in implementation of “patient-based” hospital funding, including Quality-Based Procedures (QBP). QBPs consist of pre-set reimbursement rates for managing patients with specific diagnoses or those undergoing specific procedures, with quality intended to be accounted for through adherence to best clinical practices outlined in QBP-specific handbooks. We examined whether this policy change led to improved system performance.

Approach: Following an integrated knowledge translation approach, we collaborated with researchers, clinicians, and decision makers in the Ministry of Health (MoH) to select four QBPs (congestive heart failure, pneumonia, hip fracture surgery and prostate cancer surgery) and define meaningful patient care outcomes in three domains: quality of care, access to care, and coding behaviour. We used interrupted time series analysis and linked health-administrative data from ICES to investigate the effects of QBPs.

Results: Across the 4 selected QBPs, we found mixed and generally limited response to the QBP funding reform, with some diagnoses and/or procedures appearing to be more sensitive to the change than others. The pattern of changes were not as expected. We did not observe a decrease in length of stay that might have precipitated increased patient throughput or decreased wait lists. Additionally, patients admitted for heart failure were slightly more likely to return to hospital, without any change in length of stay. However, among patients who received prostate cancer surgery, we observed no negative consequences of the QBP funding reform. Interestingly, the introduction of QBPs may have prompted more appropriate patient selection for prostate cancer surgery.

Conclusion: We saw a lack of large-scale changes in association with Ontario’s introduction of QBP funding to hospitals. Coincident initiatives and long-standing pressures to limit length of stay may have muted the response. By collaborating with the MoH, our research influenced decision makers and contributed to a learning health system.

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ID: 619

Author: Natalie Wiebe

Title: Assessing the factors associated with the completeness of electronic medical records (EMRs)

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Given its widespread integration across healthcare systems, and its abundance in clinical information, the EMR has become a rich data source for research ranging from policy and system improvement to precision medicine. However, few studies focus on evaluating EMR data quality. EMR completeness, (the inclusion of key components in EMRs e.g., discharge summary), is an essential EMR quality dimension. This study evaluates the factors associated with completeness of the population-based EMR data in Calgary, Alberta.

Approach: Data from a chart review study using 3045 randomly selected inpatient charts from three medical centers in Calgary, Alberta between January and June 2015 was used for this analysis. The in-hospital EMR data and paper chart were linked using unique patient and admission identifiers. Completeness was assessed through detection of missing discharge summaries (DCs) using the EMR data. Chart review data included the Charlson Comorbidity Index (CCI), patient care hospital, length of stay (LOS), age and sex. The differing distributions of these factors as well as their independent associations between patients with and without missing DCs were compared.

Results: The majority (n=3002, 98.6%) of the EMRs were linked to the paper chart data. Among the 3002 EMRs, 846 (28.2%) lacked DCs. Compared to the patient group without missing DCs, the patients in the missing DC group were more likely to be male, were younger, and had a lower CCI score (68% of patients without DCs and 47% of patients with DCs had CCI scores of 0). Specifically, they were less likely to have experienced a myocardial infarction, congestive heart failure, dementia, diabetes with complications, liver disease, and metastatic tumors. There was a statistically significant difference in frequency of missing DCs between the three hospitals. Additionally, patients discharged home rather than to another institution, and those with a shorter LOS, were associated with missing DC.

Conclusion: Incomplete EMRs were associated with young male patients with few comorbidities. Absence of key EMR documents affects quality of data used in various areas, including health system performance research and artificial intelligence initiatives. Further research is needed to identify associated factors and plan appropriate interventions to reduce EMR incompleteness.

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Author: Maria Wilson

Title: Healthcare Provider Utilization of Prescription Monitoring Programs

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Prescription monitoring programs (PMPs) are one of several initiatives aimed at promoting appropriate use of prescription opioids. PMPs allow healthcare providers to consult patient profiles, including patient opioid history, before prescribing or dispensing an opioid. We aimed to synthesize the literature on what proportion of healthcare providers access and use PMP data in their practice, and what barriers exist to using PMP data in this population.

Approach: We used a standard systematic review approach. We narratively synthesized PMP data use outcomes. We pooled proportions of healthcare providers who had ever used PMP data employing a random effects model using the metaprop command in Stata 15. We used Critical Interpretive Synthesis methodology to synthesize barriers to PMP data use. We included studies conducted in jurisdictions where a PMP had been implemented. Study participants were healthcare providers (i.e. physicians, pharmacists, etc.). We extracted any outcomes related to PMP data use (i.e. ever use, frequency of use). We extracted any barriers identified as interfering with PMP data use.

Results: We included a total of 53 studies in our review: 46 on PMP data use and 32 on barriers to PMP data use. Overall, the pooled proportion of healthcare providers that had ever used PMP data was 0.57 (95% CI 0.48-0.66), with no statistically significant difference between pharmacists, physicians and other healthcare provider populations. Common barriers to PMP data use included time constraints and administrative burden, not seeing the value in PMP data, and problems with PMP system usability.

Conclusion: Our study has found that healthcare providers do not use PMP data to its fullest potential, and that many barriers exist to PMP data use. Policy makers and PMP administrators can use these findings to optimize PMPs for use by healthcare providers, or to develop interventions to improve healthcare provider knowledge of PMPs.

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Title: Evolution of an Approach to Rapidly Synthesizing Evidence About Pressing Health-System Issues

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Rapidly synthesizing evidence is critical for supporting evidence-informed policymaking about health systems. Since 2013 we have developed, implemented and iteratively refined a rapid-response program at the McMaster Health Forum that has (in days or weeks) identified and synthesized evidence for Canadian policymakers and stakeholders about more than 50 pressing health-system issues. Our objective was to document the evolution of this program to provide insights for others interested in rapidly synthesizing evidence.

Approach: We used a multi-method approach to document how and why our rapid-response program has evolved and to identify current and future challenges faced in efforts to provide robust yet rapidly synthesized evidence to inform pressing health-system issues. This included a detailed internal program review that was based on internal documentation and interviews with staff, a documentary analysis of products produced through the program and a focus group with those involved in the administration and scientific aspects of running the rapid-response program.

Results: Our experience with conducting rapid syntheses has evolved to: 1) incorporate longer timelines (e.g., 60- or 90-day requests); 2) address both health- and social-system issues; 3) better accommodate the types of complex questions often asked by policymakers (e.g., that synthesize evidence about policy problems, options, implementation considerations, and monitoring and evaluation plans); 4) expand the types of evidence and insights synthesized (e.g., by drawing on systematic reviews and primary studies, as well as from policy documents and key informant interviews); and 5) conduct and integrate multiple types of analyses such as policy, systems and political analysis.

Conclusion: While our approach to conducting rapid syntheses remains underpinned by a commitment to being systematic and transparent in identifying and synthesizing evidence and insights for health- and social-system leaders it has evolved in a way that allows us to go farther, faster in responding to urgent requests.

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ID: 293

Author: Shawn Winsor

Title: Publicly-Funded IVF in Ontario: A Study of the Impact on Patients of the First Year of Implementation

Type of Abstract: Oral Presentation: Standard

Background and Objectives: On December 21 2015, the Government of Ontario launched a new, publicly-funded fertility program. This program includes funding for one cycle of in vitro fertilization (IVF) per eligible candidate, and embryo transfers of all resulting viable embryos. This funding is distributed proportionately among the existing IVF clinics according to their reported patient volume. Within the parameters of the Program's basic access criteria, individual clinics were tasked with determining the order in which their

Approach: A province-wide online survey was completed by 514 individuals. Participants were invited to participate in the electronic survey via posters and brochures that were placed within the waiting rooms of all IVF clinics in Ontario. Snowball sampling was employed. The survey contained a mix of close-ended and open-ended questions and was administered using the Qualtrics™ system. Quantitative data from the closed-ended questions was summarized using basic descriptive statistics. Qualitative data from the open-ended survey questions was analyzed through a process of data coding involving the constant comparative technique derived from grounded theory methods (Glaser & Strauss, 1967).

Results: Respondents identified the following:

Strengths: The Program helped destigmatize infertility and validate infertility as a medical condition. By mandating single embryo transfer the Program reduces potential downstream costs to the healthcare system of caring for multiple births. The majority indicated they would not have had IVF treatment if it was not for this Program.

Weaknesses: Access issues predominated: specifically, the lack of consistency and transparency in how clinics allocate publicly-funded IVF cycles, the long waiting time to access funded cycles, inequities to access based on geography, and the ancillary costs participants must assume to participate in the Program.

Areas for improvement: Funding should cover more than one IVF cycle as well as the medications required to undergo the treatment. Access to the Program should be targeted to those

Conclusion: The survey findings will help:

- ¥ policy makers determine if they met their goal to improve access for Ontarians and what areas to reevaluate for continued or increased funding
- ¥ healthcare providers and clinic owners better meet patient need for more consistent and transparent allocation prioritization schemes
- ¥ patients' preferences and concerns reach policymakers

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ID: 53

Author: Michael Wolfson

Title: Just Health Inequalities? : an Analysis Based on Canada's National Population Health Survey and the HealthPaths Microsimulation Model

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The well-known and ubiquitous socio-economic gradient in health is the result of a complex multi-factorial web of causality. While health inequalities are widely considered unjust in general, some causes may be just. The objectives of this analysis are first to discuss the criteria differentiating just and unjust sources of health inequalities, to posit and estimate using the HealthPaths microsimulation model the main causal pathways, and then to estimate their relative quantitative importance.

Approach: Various philosophical approaches to the assessment of "just" health inequalities are first reviewed. Generally, the judgments are based on the "sources" of the observed inequalities. The comparative quantitative impacts of different sources or factors are inferred by counter-factual simulations using the HealthPaths microsimulation model. This model is based on very detailed statistical analysis of the longitudinal National Population Health Survey (NPHS), yielding a network of regression estimates in turn used to quantify a "web of causality" observed in Canada from 1994 to 2010. For the sake of argument, the estimated co-evolving dynamics are assumed to be causal.

Results: The results focus on both life expectancy (LE) and health-adjusted LE (HALE). There are major differences in the impacts of various factors on LE and on HALE. While sensory functions and mental conditions have about a year impact on cause-deleted LE, their impacts on cause-deleted HALE are about 6 times as large. For health inequalities, it is fundamental to distinguish univariate and bivariate measures. Continuing with using cause-deleted LE and HALE estimates, but now looking at their distributions across heterogeneous population cohorts, eliminating all smoking would be mildly equalizing. Eliminating differences in incomes and educational attainments, however, would have considerable disequalizing effects for parts of the health distribution. So too would the elimination of pain for HALE, though not

Conclusion: Using microsimulation modeling, in turn based on sophisticated statistical analysis, it is possible to bridge the divide between the prose moral philosophy and empirical / statistical approaches to judging the extent to which observed health inequalities are unjust. Key is disentangling just and unjust sources of health inequalities quantitatively.

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ID: 424

Author: W. Dominika Wranik

Title: Ranking criteria used in the selection of drugs for reimbursement: A stated preferences elicitation with Health Technology Assessment stakeholders across jurisdictional contexts

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The selection of drugs for reimbursement is an important decision problem for public drug plans. In many jurisdictions, including Canada, selection is guided by the Health Technology Assessment framework that combines clinical, economic, organizational, social and ethical criteria. Stakeholder groups, including expert advisory committees, political decision makers, clinicians, health administrators and clinicians, assign different weights to these competing criteria.

Approach: We conducted a stated preferences elicitation with HTA stakeholders in Australia, Canada and parts of Europe to measure the relative importance assigned to various criteria and to compare between stakeholder sub-groups. Our approach (i) combined discrete choice and best-worst scaling experiments into a hybrid model, and (ii) included a measure of conviction/hesitation; both are novel additions to preference elicitation among health policy stakeholders. Data were collected between February and May, 2018 for a total of 214 respondents and 1246 observations. Analysis relied on logistic regression methods.

Results: Respondents considered hypothetical drug submissions and voted in favour or against them. Results suggested that a high clinical benefit was the most important criterion across stakeholder groups and jurisdictions. While high costs were a deterrent, respondents were hesitant to reject effective drugs on account of high costs. European respondents appeared more concerned with adverse events than Canadian respondents. The number of potentially affected patients was not a strong influence on drug selection.

Conclusion: Results are important from the policy perspective. If expert committees focus on high clinical benefit as the primary criterion, we could consider a two-step decision process, where the clinical qualities are appraised as a first step, and a positive appraisal becomes a pre-requisite to the full Health Technology Assessment process.

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Author: Sarah Xiao

Title: Development and evaluation of an instrument to measure discharge planning processes in mental health care: Preliminary findings

Type of Abstract: Oral Presentation: Standard

Background and Objectives: To ensure continuity of care as mental health patients transition from hospital to community settings, discharge planning is essential. However, there is currently little agreement on how to effectively assess the quality of discharge planning processes. To address this knowledge gap, a multi-phase study is underway to develop an instrument to measure and evaluate the quality of discharge planning processes in mental healthcare settings. This paper will present preliminary findings from the first study phase.

Approach: This study consists of three phases. In Phase I, domains and indicators of quality discharge planning processes were identified through a concept analysis and literature review, and validated through focus groups with mental healthcare providers. This step was followed by a two-round Delphi process to generate consensus amongst an interdisciplinary expert panel on key indicators for measuring the quality of discharge planning processes. In Phase II, preliminary instrument items will be constructed and validated using a formal content validation process. In Phase III, the instrument will be pilot tested through chart reviews and cognitive interviews at a mental healthcare facility.

Results: The concept analysis and literature review yielded 72 quality indicators in six domains: comprehensive needs assessment; collaborative, patient-centered care; resource availability management; care and service coordination; discharge planner; and discharge plan. Two additional domains (i.e., information gathering and synthesis, patient capacity assessment) and 7 indicators were included after the focus group discussions. In the first Delphi round, 40 expert panelists were sent a survey with the 79 quality indicators and asked to rate the importance of each indicator. Preliminary data analysis revealed a 92.5% response rate (n=37) and consensus on 74 quality indicators. It is anticipated that the second survey round and expert panel results will inform a precise list of quality indicators for the development of valid and reliable instrument items in Phase II.

Conclusion: The instrument developed can be used by healthcare providers to provide insight into practice and knowledge gaps in care, organizational leaders to inform process and structural improvements in mental healthcare settings, and policymakers to design more effective policies and practice guidelines for safer care transitions from hospital to community.

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Author: Rebecca Yang

Title: The use of videoconferencing to deliver psychotherapy for postpartum women: A pilot study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Depression and anxiety are prevalent during the postpartum period. Psychotherapy is the first-line treatment for this condition, but many women face barriers to attending in-person appointments. Videoconferencing (VC) as a mode of delivery for psychotherapy presents an exciting opportunity to provide flexible and accessible mental health care. The objectives of this study were to explore the feasibility, acceptability, and preliminary effectiveness of optional VC in addition to standard office-based psychotherapy among postpartum women.

Approach: We conducted a pilot parallel group randomized controlled trial in a specialized mental health program within an Ontario academic hospital comparing in-person psychotherapeutic treatment as usual (TAU) delivered by psychotherapists, and TAU with additional optional VC (TAU-VC) for postpartum depression and anxiety. Primary outcomes were recruitment feasibility, acceptability of the TAU-VC intervention, and trial adherence. Participants completed symptom measures (Edinburgh Postnatal Depression Scale (EPDS), Generalized Anxiety Disorder 7-Item (GAD-7), Parental Stress Scale (PSS)) at baseline and three months post-randomization. We also conducted semi-structured interviews with psychotherapists and 13 participants, and qualitative data was analyzed thematically for insights on study objectives.

Results: 38 participants were enrolled in the study (19 per condition). Among TAU-VC participants, 74% used the VC option at least once, and rated the VC option highly in terms of quality of care, perception of interaction, and similarity to in-person interaction. TAU-VC participants also reported an average cost savings of \$26 CAD and time savings of 2.5 hours per session related to preparation and transportation. There were no statistically significant differences between groups in terms of therapy attendance ($p=0.71$) or symptoms at three months post-randomization (EPDS: treatment effect size -0.42 , [95% CI $-4.23, 3.91$]; GAD-7: -0.44 , [95% CI $-4.49, 3.62$]; PSS: 3.42 , [95% CI $-1.74, 8.59$]). The qualitative data further contextualized the findings by detailing the participants' and therapists' attitudes and experiences with VC psychotherapy.

Conclusion: Psychotherapy delivered through VC is acceptable among postpartum women, with benefits such as time and cost savings. VC psychotherapy is also a feasible program for an urban hospital, and a larger study is justified to definitively understand its effectiveness and to inform further scale.

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Title: Translating research to inform policy decisions – the OncoSim's experience

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Simulation models are important tools for evaluating healthcare interventions; however, developing these complex models is resource-intensive and the results may not be timely for informing policy decisions. OncoSim is the only cancer simulation tool that is available for free to users; they can modify the model inputs to answer specific policy questions. In this presentation, we will share our experience in developing and maintaining a cancer simulation tool aimed to inform policy decisions.

Approach: OncoSim is led and supported by the Canadian Partnership Against Cancer, with model development by Statistics Canada, and is made possible through funding by Health Canada. Combining Canadian data from the real world, expert opinion and clinical trials, OncoSim projects health and economic outcomes, and attributes them to 27 risk factors, such as smoking and physical inactivity. In addition to providing high-level projections for 28 cancer sites, OncoSim models four other cancer sites and related screening programs in detail: breast, colorectal, lung and cervical cancers.

Results: Over the last five years, OncoSim's projections have helped inform cancer control planning decisions across Canada. The Canadian Partnership Against Cancer actively works with its partners to promote the use of OncoSim in informing policy decisions. Statistics Canada develops and maintains the models with input from experts in cancer screening, clinical epidemiology, health economics and oncology. We will discuss governance structure to effectively elicit input from experts, strategies to engage users and to promote adoption among policy makers, and ongoing efforts to validate model results using emerging data. Also, we will share our successes and challenges in keeping the models useful for policy makers.

Conclusion: OncoSim has proven to be a useful tool but its maintenance for use by a diverse user group continues to be challenging. Our experience and lessons learned are valuable to others interested in developing and maintaining a multi-purpose simulation tool to inform policy decisions.

All Authors: Jean Hai Ein Yong, Natalie Fitzgerald, William Flanagan, Anthony Miller, Andrew Coldman, Catherine Popadiuk, Michael Wolfson, Claude Nadeau, Saima Memon, William Evans

ID: 347

Author: ellie yu

Title: Patient engagement and access to digital health services, health service utilization, and self-reported health status.

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient engagement is a crucial component of patient-centred healthcare. Engaged patients make informed decisions about their care options in partnership with care providers and align resources to treatment plans and wellness priorities. Despite its primacy, patient engagement in Canada is not well understood. This study explores the continuum of patient engagement in Canada on access and utilization of healthcare services and the role of digitally enabled health services as a catalyst to improved outcomes.

Approach: We completed an online population survey of Canadians over the age of 16 (N=2,406) in French and English - representative by age, sex, province; and rural and remote communities in 2018. Patient engagement was determined by a combination of patient's self-reported involvement with their health care providers and confidence to participate in partnership for health care management and decision-making. Comparing patients who self-reported as engaged to those who are not, we compared the two groups on access, utilization, and interest in various digital health services; utilization of primary care and specialist services, and self-reported health and mental health status.

Results: According to our definition of engagement, 42% of Canadians report being engaged: highly involved and confident to participate in partnership with their health care providers. Engaged patients are more likely to be older adults with a regular health care provider, take more prescription medications, and have a chronic health condition. Engaged patients are significantly more likely to: have access to one or more digitally enabled health service; report their self-rated health and mental health status as 'Very good' or 'Excellent'; and are less likely to visit walk-in clinics and emergency room services. Preliminary analysis demonstrates a positive relationship between access and use of digital health services and high levels of patient engagement.

Conclusion: Results suggest that even though engaged patients are more likely to be older adults with a chronic health condition, they are also more likely to access digitally enabled health services; and less likely to use walk-in clinics or emergency services; and have better self-reported health and mental health status.

All Authors: ellie yu, Chad Leaver

ID: 70

Author: Moutasem Zakkar

Title: Patient Experience Determinants and Manifestations: A Classification Scheme

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Patient experience is a pillar in patient-centered care. However, it is a complex multidimensional phenomenon that is linked to complex constructs, such as patient expectations, and patient satisfaction. We have developed a classification scheme for the dimensions of patient experience, which differentiates between two types of dimensions: the determinants and the manifestations of patient experience. The classification provides a holistic view of patient experience and it can be used for research, policymaking, and quality management.

Approach: We have conducted a narrative review of the literature aiming at exploring select constructs and initiatives developed by researchers, healthcare providers, and health policymakers for theorizing or operationalizing patient experience. The narrative review method doesn't require a systematic process for searching for and selecting the research studies, and it gives researchers the flexibility to use primary and secondary literature to shed light on important aspects of the phenomenon while taking into consideration the authority, coverage, and currency of the sources (Mays et al., 2005).

The presentation summarizes a paper that has been accepted for publishing in a peer-reviewed journal.

Results: We have identified five determinants for patient experience: the experience of illness, patient's subjective influences, quality of healthcare services, health system responsiveness, and the politics of healthcare. These determinants are given different weights by different stakeholders in healthcare. We have also identified two manifestations of patient experience: patient satisfaction and patient engagement. We have also critically explored some health policy initiatives and theories that are related to patient experience, including healthcare politics (i.e., power and knowledge differentials among stakeholders), managerialism vs professionalism in healthcare, human rights, and patient experience boundaries (i.e., the experience of illness or experience of care). In addition to the proposed classification, we have created a concept map that links together all the relevant concepts.

Conclusion: There is a plethora of concepts that reflect some of the dimensions of patient experience or the varying perspectives of stakeholders. With the lack of an appropriate classification, this plethora of concepts has made it difficult to conceptualize and operationalize patient experience effectively enough to the quality of care goals.

All Authors: Moutasem Zakkar

ID: 139

Author: Moutasem Zakkar

Title: The Utility of Patient Stories on Social media: A qualitative exploratory study

Type of Abstract: Oral Presentation: Standard

Background and Objectives: There is a growing body of evidence on the emergence of social media as an incubator for patient stories, and a means for understanding and evaluating the patient experience of illness and healthcare systems. However, there are several challenges in this area, including methodological challenges and data quality challenges. This research study aims to explore the healthcare providers' perceived utility of social media for healthcare quality improvement and patient experience evaluation.

Approach: We have started a qualitative exploration of the utility of patient stories on social media by interviewing primary healthcare providers in Ontario, including family physicians and nurse practitioners. We are also interviewing healthcare quality managers and health policymakers. We are using the theoretical sampling approach. Data is being collected using a semi-structured interview method where all the questions will be open-ended. To analyze the data, we will use the thematic analysis method, which is appropriate for most types of qualitative research, including narratives and life experiences. A qualitative data analysis software will be used to aid in data analysis.

Results: The study has started in April 2018, and it is still in progress. However, we aim at concluding it in March 2019, and our report should be ready before the CAHSPR conference. The study will shed light on the perspectives of healthcare providers about social media and patient stories. We also believe that the study will shed light on some of the complexities of the healthcare system in Canada, including healthcare providers' priorities and concerns, and some organizational factors that could enable or impede the use of patient stories on social media.

Conclusion: We will only make a conclusion upon completing our data analysis.

It should be ready before the CAHSPR conference.

All Authors: Moutasem Zakkar, Marcello Nesca, Plinio P. Morita

ID: 80

Author: Greg Zinck

Title: Combining clinical and financial information to support evidence-based decision making

Type of Abstract: Oral Presentation: Standard

Background and Objectives: The objectives of this presentation are to showcase the power of having linked inpatient and ambulatory care clinical and financial data, as presented in an online tool.

Approach: Two separate scenarios will be worked through, demonstrating how key decisions can be impacted by having record-level clinical and financial information. For example, a hospital may make a different decision when looking at the price differential of performing some surgeries and keeping patients overnight, versus performing these same surgeries in day surgery context and sending patients home. Supporting drill-down detail and visualizations will also be showcased.

Results: The presentation will focus on the importance of leveraging and integrating available information to better support decision-making. The presentation will emphasize how this tool, which uses linked clinical and financial data, is an example of the integration of new information sources into traditional decision-making practices. For example, with the availability of detailed cost estimates tied to clinical information, decision-makers have the ability to provide budgeting and costing estimates, by area, for different patient types. This is particularly important for hospitals that do not have a patient cost system in place.

Conclusion: Tools that integrate information in an easy to use format allow decision-makers to access important information quickly, thus facilitating more time to gather supplemental information and consider the information at hand, ultimately supporting evidence-based decision-making.

All Authors: Greg Zinck

ID: 10

Author: Raadhiyah Zowmi

Title: Maternal Health Programs, Interventions, and Services in Pakistan: A Scoping Review

Type of Abstract: Oral Presentation: Standard

Background and Objectives: Despite worldwide efforts to improve the quality of maternal health services, there are critical disparities in how women and children access these services. In Pakistan, efforts to improve maternal health services have been steadily increasing over the past three decades, but there have been no efforts to systematically review and describe these initiatives. This presentation will describe the findings of a scoping review that characterized past efforts to improve maternal health services in Pakistan.

Approach: A scoping review, using the Arksey and O'Malley (2005) framework, was conducted to examine existing literature regarding maternal health initiatives in Pakistan. A database search was conducted in MEDLINE, Embase, and PsychINFO to retrieve programs and interventions that target any aspect of maternal and/or child health. Study characteristics and program details were extracted and summarized to provide context for future priorities and gaps to improve maternal health in Pakistan.

Results: This scoping review found that few studies described the design or impact of their program and/or intervention, which makes it difficult to assess the success of the intervention and make decisions regarding future programs. Few interventions engaged the target population in program design and delivery. This major gap has important implications to the feasibility of programs and the likelihood of its acceptance in the target population. Another notable finding was that there is little effort made in Pakistan to sustain initiatives beyond their formal funding cycles, which means that interventions that are have some benefit for a specific population are not readily accessible to other populations.

Conclusion: The findings from this review will be utilized to address gaps to identify priorities for future program design and formulate the next steps in improving the quality and accessibility of maternal health services in Pakistan. This project is coordinated by an international coalition of North American and Pakistani healthcare professionals

All Authors: Raadhiyah Zowmi, Umair Majid, Brittany Bowen , Rida Shaikh, Bismah Jameel, Mahrukh Zahid, Shahzadi Zain

ID: 457

Author: Fatima Al Sayah

Title: Putting Patients at the Centre of Health Care: The use of patient-reported outcome measures (PROMs) in the Healthcare System

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Health systems collect large amounts of healthcare data including numbers of patients treated, types of services delivered, and cost of healthcare. However, we lack data that patients, clinicians and health systems need to understand how the system is performing, to measure the value of healthcare from patients' perspectives, and to improve the value and quality of healthcare. Patient-reported outcome measures (PROMs) - direct reports from patients about their health – have been increasingly used in healthcare systems, reflecting a growing recognition throughout the world that the patients' perspective is highly relevant to improve the quality and effectiveness of healthcare.

Objectives: Our objectives are to: 1) provide an overview about PROMs (e.g., types, development and measurement properties, selection, use and interpretation); 2) discuss the importance of a patient-centered approach in evaluating the performance of healthcare systems and measuring value in healthcare; 3) provide examples on the process of incorporating PROMs into ROM in healthcare systems; and 4) discuss the value of using PROMs in the healthcare system. The panelists will also address the challenges and lessons learned with respect to the process of incorporating PROMs into ROM, and in using PROMs data for various purposes.

Invited Experts: The panel session will be moderated by Fatima Al Sayah, PhD (Manager of PROMs research unit at the School of Public Health, University of Alberta, Canada), and will include the following four experts:

- Jeffrey A. Johnson, PhD, is a professor and the co-director of a PROMs research unit at School of Public Health, University of Alberta, Canada.
- Nancy Devlin, PhD, is the Director of Research at the Office of Health Economics, UK, and an honorary professor at the University of Sheffield and City University of London. She has lead several PROMs initiatives in the UK.
- Linda Watson, PhD, RN, in the Lead of Person Centred Care Integration at CancerControl Alberta (CCA), Canada, and has lead the implementation of PROMs at CCA within the province.
- Emelie Heintz, PhD, is the Project Manager of the Swedish PROMs research program at QRC Stockholm Research Unit, Karolinska Institutet

Approach: Canada, UK, and Sweden are among a few leading countries that have incorporated PROMs into routine outcome measurement (ROM) in various clinical areas and healthcare service delivery settings. After providing a brief overview on PROMs, we will draw on examples from these countries to demonstrate how PROMs are incorporated into ROM systems (including patient portals, electronic health records, and patient registries), and how PROMs data can be used to evaluate the quality of health services, the performance of the health system, and to measure value in healthcare. Further, we will highlight the use of PROMs in specific clinical areas such as cancer care in Alberta and hip/knee replacements in the UK. The presentations will be followed by an open discussion facilitated by questions from the audience. The audience will also be engaged throughout the session via online polling techniques to answer simple questions or provide input.

All Authors: Fatima Al Sayah, Jeffrey Johnson, Linda Watson, Nancy Devlin, Emelie Heintz, Shannon Weir-Seeley

ID: 617

Author: Sara Allin

Title: Health policy learning across Canada's provinces with in-depth health system studies

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: The high degree of decentralization in Canada yields considerable variation in the functioning of provincial/territorial (P/T) health systems. P/T health systems adopt different reforms to address common policy challenges such as care fragmentation for patients with complex conditions. These variations present opportunities for comparative research and policy learning by drawing attention to a broad range of policy options, and by learning from successes, failures, and challenges across Canadian jurisdictions. This panel will attract decision makers, students and researchers interested in learning from policies and system reforms across provinces, and the value of conducting in-depth health system studies.

Objectives: The panel includes a selection of experts responsible for producing detailed health system profiles for selected provinces. Drawing on an adapted template developed by the European Observatory on Health Systems and Profiles, these studies facilitate subnational comparative health policy and systems analysis. In-depth provincial studies systematically describe health system governance, regulation, financing, and delivery, and provide a review of recent reforms and overall assessment of the health system. These studies facilitate comparative research; gain insight into the often subtle but significant ways in which P/T systems are similar and different; and inform policy learning.

Invited Experts:

- Katherine Fierlbeck, Dalhousie University, is the author of the Nova Scotia study published by the University of Toronto Press in 2018. Katherine is a professor of political science with expertise in comparative health policy and healthcare governance.
- Amélie Quesnel-Vallée is the Canada Research Chair in Policies and Health Inequalities, Director of the McGill Observatory on Health and Social Services Reforms, and Associate Director with the North American Observatory on Health Systems and Policies. Amélie is lead author on the Quebec health system profile, forthcoming (University of Toronto Press).
- Allie Peckham is senior research officer with the North American Observatory on Health Systems and Policies and co-author of the Ontario health system profile, forthcoming (University of Toronto Press).
- Tom Noseworthy, CEO of British Columbia Academic Health Science Network is a recognized physician, researcher, policy-maker and health care leader who has held senior leadership positions with Alberta Health Services.

Approach: This panel, moderated by Greg Marchildon and Sara Allin with the North American Observatory on Health Systems and Policies, brings together researcher and decision maker perspectives on subnational comparative health system research. Each expert will discuss their approach to comparative analysis drawing on their experiences with writing the health system profiles. Professor Fierlbeck will draw attention to the key messages from the Nova Scotia book which offers in-depth political analysis of recent reforms (e.g., the consolidation of regions into a single agency). Dr. Quesnel-Vallée will review recent reforms and describe the increasing role of the private sector in health care finance and delivery in Quebec. Dr. Peckham will speak to recent reforms and current policy directions in Ontario's health system. Drawing on his experience in senior leadership positions, Dr. Tom Noseworthy will speak to the role of health system profiles and comparative research in informing policy decisions.

All Authors: Sara Allin, Amélie Quesnel-Vallée, Allie Peckham, Katherine Fierlbeck, Gregory Marchildon

ID: 573

Author: Carmela Bosco

Title: Policy Approach to Advance Improved Access to Rural Care Delivery in Rural Canada

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Rural and remote communities in Canada are entitled to equitable health care. In 2017, a Rural Road Map for Action (RRM) was launched by the College of Family Physicians of Canada and Society of Rural Physicians of Canada providing a pan-Canadian way forward for interjurisdictional, interorganizational and intersectoral collaboration. Endorsed by national medical organizations, with input and support from provincial and federal governments, the RRM highlights how education, practice, policy and research can enhance rural and remote healthcare. The RRM addresses the conference themes of collaborative health care improvement partnerships, rural HHR, rural primary health care and rural healthcare

Objectives:

- 1) Recognize the value for how the RRM can be used across organizations & jurisdictions to support policy initiatives enhancing rural healthcare close to home;
- 2) Be inspired with ideas from the experiences shared by leaders in education, practice, research and government on how the RRM can be used to improve recruitment and retention, build networks of care and improve rural health outcomes; and
- 3) Provide examples of how effective collaborative leadership at national, provincial and regional levels can stimulate health system change enabling improved access to care in rural and remote Canada.

Invited Experts:

- Dr. James Rourke is Professor of Family Medicine, Director, Centre for Rural Health Studies and Former Dean of Medicine at Memorial University of Newfoundland. He is an internationally recognized leader in rural medicine. Currently he is the Co-Chair of the Rural Road Map Implementation Committee. In his role as Dean he helped to establish the first family medicine residency training program in Nunavut. He has worked tirelessly advocating for health system improvements for rural Canada.
- Dr. Oandasan is a Professor, Department of Family and Community Medicine, University of Toronto and Director of Education at the College of Family Physicians of Canada. She has led large scaled systems change advancing interprofessional education and competency based medical education in Canada. She created the Interprofessional Education for Collaborative Patient Centred Practice framework used worldwide. This framework informed the Rural Road Map for Action's development.

Approach: The panel will share examples of how the RRM has catalyzed rural healthcare improvements within and across organizations and jurisdictions. Policy-makers will reflect upon the role of medical education as a health services intervention, when meaningfully situated and supported in rural and remote communities. It can support a long-term sustainable rural health workforce. Panelists will identify policies that have acted as barriers and share initiatives that are showing signs of success Specific attention will be placed discussing how the Rural Road Map Implementation Committee, consisting of multiple national organizations has catalyzed action by engaging strategically, capitalizing on opportunities, participating in advocacy efforts and disseminating the use and intent of the RRM. The RRM's use by provincial government, policy-makers, national medical organizations and universities will also be highlighted. Participants will have an opportunity to dialog about best practices and brainstorm on how to build further collaborations collaboratively to catalyze further

All Authors: James Rourke, Ivy Oandasan

ID: 348

Author: Sandra Crowell

Title: Closing the research to practice to policy gap: How the Translating Research into Care (TRIC) funding program is making a difference in Nova Scotia

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Delays moving health care research into practice and policy are well documented. Failure to bridge these gaps can lead to inefficient resource use and inadequate delivery of patient care. The QEII/IWK Foundation-funded Translating Research into Care (TRIC) program expedites the translation of well-established clinical evidence into improved service delivery and patient outcomes through the principles of implementation science. Through a unique partnership, TRIC requires researchers and health administrators to co-lead research, thus combining scientific and administrative expertise to yield long-term and sustainable improvements in: health outcomes, patient safety, wait times, access to care, and health costs.

Objectives:

- Provide an overview of the TRIC funding program
- Present program evaluation data and outcomes from three TRIC funded projects:

Project 1: Improving care for patients visiting the Emergency Department with low back pain through collaboration and best-practice evidence (Hayden)

Project 2: Enhancing post-partum breastfeeding through evidence to enhance maternal newborn outcomes (Snelgrove-Clarke)

Project 3: Improving care and quality of life for hospitalized older adults with cognitive problems (Urquhart)

- Discuss strategies for closing the research to practice to policy gap in health care settings

Invited Experts:

- Sandra Crowell, Program Leader, Research Development, Nova Scotia Health Authority (NSHA) manages the TRIC funding program.
- Implementation science researchers who hold TRIC awards and are members of the TRIC peer review committee:
- Dr. Jill Hayden, Associate Professor, Community Health and Epidemiology, Dalhousie University; Affiliate Scientist, NSHA has co-led four TRIC projects on low back pain in the emergency department.
- Dr. Erna Snelgrove-Clarke, Associate Dean Academic, Faculty of Health, Dalhousie University; CIHR Embedded Clinical Researcher and Staff Nurse, IWK co-leads projects related to breastfeeding, labor and delivery and obesity in pregnancy.
- Dr. Robin Urquhart, Assistant Professor, Dalhousie Department of Surgery and Affiliate Scientist, NSHA leads TRIC studies on transitions for patients with cancer, and improving inter-professional practice to better care for cognitively impaired older adults in acute care.
- Dr. Jill Hatchette, Consulting Scientist, IWK Health Centre, is an educator and research consultant with the TRIC program.

Approach: Sandra Crowell will introduce the TRIC healthcare improvement funding program, the panelists, panel objectives, and data from the recent TRIC program evaluation. Expert panelists – Drs. Jill Hayden, Erna Snelgrove-Clarke, and Robin Urquhart will each present funded implementation science research projects from diverse areas of health care. Each presenter will focus on the successes and challenges their team encountered in moving evidence into health care policy and practice, and the lessons learned. Dr. Jill Hatchette will conclude the panel session with insights about the impact of the TRIC funding program in Nova Scotia. She will lead the discussion about strategies to further close the research to policy gap in Canadian health care facilities.

All Authors: Sandra Crowell, Robin Urquhart, Jill Hayden, Erna Snelgrove-Clarke, Jill Hatchette, Kathryn McIsaac

ID: 59

Author: Raisa Deber

Title: Speaking to Americans about Canadian Health Care

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Health care reform is attracting considerable attention internationally. This panel focuses on the experiences of Canadians who have been asked to testify as experts about health care to American (and international) audiences, and what it tells us about health reform in both countries, including the role of politics. These discussions highlight strengths and weaknesses of various systems(e.g., although Canada's plans are a source of national pride which provides universal coverage for physician and hospital services, but they are not a world leader in drug coverage, cost control, or even some dimensions of access and quality by global standards.)

Objectives: The panel will discuss what Americans think/assume about Canadian health care, and what they want to know from us, and the implications for health reform on both sides of the border. It will also examine the extent to which their assumptions are an accurate portrayal of health care in Canada, and what this may teach us both about health care, and the politics affecting health care reform in both countries. It will also explore our experiences in dealing with US health services, policies and systems (at the federal and state levels), and what that tells us.

Invited Experts: Scheduled speakers include

1. Raisa Deber, Professor, Institute of Health Policy, Management and Evaluation, University of Toronto;
2. Steve Morgan, Professor, Faculty of Medicine, School of Population and Public Health, University of British Columbia.
3. Greg Marchildon, Director, North American Observatory on Health Systems and Policies, and Ontario Research Chair in Health Policy and System Design, University of Toronto.
4. Sara Allin, Assistant Professor (status only), Institute of Health Policy, Management and Evaluation, University of Toronto, and Director of Operations, North American Observatory on Health Systems and Policies.

Approach: The invited panelists have been asked to speak with a variety of audiences internationally (including in the US), including the media, policy makers (including staffers for legislators at the federal and state level), think tanks, academic advisors to state and federal governments, and the public. This educational session should be of particular interest to students and early career members. The panelists have learned that successful communication involves a number of factors including: advance assessment of audience; careful translation of country-specific terminology; useful cross-border comparisons that undermine existing assumptions, biases and misunderstandings; and effective use of metaphors and images in order to better connect with audiences. They have also noted what these conversations tell us about how we might speak to Canadians about potential areas for improving our strong system, and potential changes that should be avoided.

All Authors: Raisa Deber, Steven Morgan, Gregory Marchildon, Sara Allin

ID: 331

Author: Keith Denny

Title: Ensuring a clinically useful classification to improve mental health detection and monitoring in Canada: Insights from ICD-11 Clinical Descriptions and Diagnostic Guidelines Development and Testing

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Classification is the mechanism that facilitates capture of standardized information from health encounters for research and decision-making. In Canadian mental health settings, the Diagnostic and Statistical Manual is used routinely to support diagnosis, although its statistical dimension is designed for use in the U.S. The 11th revision of the International Classification of Diseases has sought to improve the clinical utility of the chapter on Mental, Behavioural and Neurodevelopmental Disorders (MBND) to ensure effective translation of health encounters to health information. Diagnostic conceptualizations in ICD-11 and DSM-5 diverge in important ways highlighting the importance of rigorous field-testing to evaluate clinical utility.

Objectives: To review the historical adoption of classifications for mental health in Canada. To provide an overview of the ICD-11, with particular focus on the improvement of clinical utility and implications for mental health data collection. To describe the science of measuring clinical utility of classifications developed as part of the ICD-11 revision process. To present current evidence from ICD-11 developmental field trials conducted in Canada supporting the reliability, validity and clinical utility of ICD-11 for implementation and its expected impact on better data for improving mental health care in Canada.

Invited Experts:

- Cary Kogan is Professor of Clinical Psychology at the University of Ottawa and a consultant to the World Health Organization's Department of Mental Health and Substance Abuse. He contributed to the development, field testing and implementation of the MBND chapter of the ICD-11. Prof. Kogan lead the Canadian clinic-based field trial for MBND at the Royal's Institute of Mental Health Research, affiliated with the University of Ottawa.
- Keith Denny, is Director of Clinical Data Standards and Quality at the Canadian Institute for Health Information, providing vision and leadership for the development and application of clinical classifications and terminology standards. Dr. Denny is an adjunct research professor at Carleton University.
- Jared Keeley is an Associate Professor at Virginia Commonwealth University and a consultant to the World Health Organization's Department of Mental Health and Substance Abuse. He contributed to the design and implementation of field testing for the MBND chapter of ICD-11

Approach: In view of the likely approval of ICD-11 by the World Health Assembly in 2019, this panel presentation will discuss the potential advantages of implementing a single classification system in Canada for all clinical and administrative activities in the health system, including mental health. It will review the use of classification systems for mental health in the wider Canadian health system context, illustrating the historical relationship between the ICD and DSM. The development of a science for measuring clinical utility of ICD-11 will be described within the broader endeavour of systematic development and evaluation of ICD-11 MBND. We will illustrate the evaluation of ICD-11 clinical utility with results of the Canadian clinic-based field trial that evaluated high service utilization and high disease burden disorders at a tertiary care hospital.

All Authors: Keith Denny, Cary Kogan, Jared Keeley

ID: 384

Author: Matthias Hoben

Title: Insights into the lifecycle of complex interventions – 10+ years of learning about learning health systems from a longitudinal program of integrated knowledge translation

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Complex healthcare interventions are rarely sustained beyond the trial phase; we lack knowledge on how to successfully sustain, spread and scale-up those that are effective under 'real-life' conditions. For over a decade, the Translating Research in Elder Care (TREC) program has successfully applied an integrated knowledge translation (iKT) approach, partnering researchers with key stakeholders in residential long-term care (LTC). We have developed and tested practical, effective approaches to improve the health and well-being of LTC residents and care staff. TREC's partnerships provide a unique opportunity to move effective interventions to the next stages in the life cycle of intervention implementation.

Objectives:

1. To describe our 12 years of experience with intervention development, implementation, testing, sustainment, and next steps toward spread and scale-up – reflecting upon various stages of the lifecycle of complex healthcare interventions.
2. To present key learnings related to the opportunities and challenges encountered in objective 1 and where relevant to discuss prevention/mitigation strategies when undertaking an integrated program leading to pragmatic intervention and large-scale implementation studies.
3. To discuss the implications of our findings for the science of learning health systems.

Invited Experts: Dr. Estabrooks, TREC's scientific lead, has created and maintained the partnerships required for over a decade of high impact iKT research in LTC. Dr. Doupe is a regional lead investigator (Winnipeg). He has been involved in SCOPE, as well as, partnership development. Dr. Berta leads the sustainability, spread and scale-up study (focused on SCOPE). Dr. Hoben has led the INFORM trial. Ms Grabusic is the Director of Program Policy and Quality Improvement in the continuing care branch of the Government of Alberta and a long-time TREC partner. These five experts will draw from the TREC program of research to provide an in-depth, multi-faceted analysis of key learnings, challenges, and future directions related to the life cycle of complex healthcare interventions where iKT has been fundamental to their implementation, sustainability, scale-up and spread. They will also offer their perspectives on how TREC has contributed to building a learning health system.

Approach: We will briefly introduce two intervention trials being conducted using an iKT approach, and in different stages of the implementation life cycle:

1. Safer Care for Older Persons (in residential) Environments (SCOPE) is a controlled trial examining the effect of empowering and supporting unregulated frontline workers to lead improvement strategies within their facility. This intervention has undergone feasibility and pilot testing and is currently being evaluated in 32 sites in Alberta and British Columbia. We are also assessing sustainability, spread and scale-up potential of SCOPE.
2. Improving Nursing Home Care through Feedback on Performance Data (INFORM) feeds back performance data to care managers and engages them in goal setting and ongoing learning to implement positive changes on their care units. INFORM has been tested in a randomized trial and the research intervention has been transformed into a change/implementation technology for operational use that is going to be field tested.

All Authors: Matthias Hoben, Carole Estabrooks, Whitney Berta, Malcolm Doupe, Carmen Grabusic

ID: 549

Author: Logan Lawrence

Title: Integrating professional and academic development: Perspectives from the Health System Impact Fellowship's inaugural PhD cohort

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Given the increase in PhD graduates pursuing career paths outside academia, there is a need to ensure that PhD students develop core competencies that are highly valued in the marketplace. CIHR has invested in a strategic training program – the Health Systems Impact Fellowship (HSIF) – to provide experiential and professional development opportunities to better prepare PhD trainees for contributing to health system activities. To inform future similar initiatives and improve current ones, it is important to understand fellows' experiences in their embedded host organization and how it has helped them develop competencies in the areas they have chosen.

Objectives:

- 1) Describe the HSIF program and characteristics of the inaugural PhD cohort;
- 2) Illustrate the extent to which fellowship projects align with, complement, or diverge from trainees' doctoral research;
- 3) Outline advantages and disadvantages of combining academic and professional training, including how responsibilities are navigated and balanced in this novel dual role;
- 4) Share how host organizations and universities understand this role, and the successes and challenges encountered when applying academic skills in new environments
- 5) Highlight considerations for those with academic training who desire to contribute to health system activities, and for trainees interested in applying to the HSIF

Invited Experts: Panelists are doctoral fellows working with indicated health system partners.

- Stephanie Aboueid (Deloitte) is developing and implementing artificially-intelligent digital health solutions in healthcare settings.
- Danielle Rice (Canadian Institute for Health Information) is researching indicators for pan-Canadian data collection, and can speak to alignment between academic and government/NGO objectives.
- Elena Lopatina (Arthritis Alliance of Canada) is leading a national multi-stakeholder business case for innovative models of care, and also helping to revise her partner's mission and vision.
- Natasha Gallant (Saskatchewan Health Authority) is contributing to the implementation of advanced technologies for aging populations in the wake of transitioning to a single provincial health authority.
- Kaitlyn Tate (Alberta Health) is completing a mixed methods review and employing multi-level modeling to examine permanent living transitions within continuing care.
- Logan Lawrence (moderator; Nova Scotia Department of Health and Wellness) is researching health policy capacity, and has experience facilitating discussions and conducting qualitative research.

Approach: Prior to the session, HSIF PhD fellows will participate in semi-structured interviews and focus groups to build a shared understanding of panel objectives and trainee experiences (both shared and distinct). The panel will commence by introducing the Health System Impact Fellowship program and the diversity of the 2018 PhD Cohort (e.g., areas of study, host organizations, fellowship project foci). Fellows will take turns presenting aspects of their fellowship experiences according to the above objectives. Experiences will be contrasted and explored by the moderator, who will also introduce excerpts from interviews with other trainees to showcase the overall HSIF PhD experience. Fellows will then discuss considerations for integrating academically-trained individuals into health system and policy settings. A question and answer session will conclude the panel discussion.

This panel aligns with the CASHPR conference theme "When Research Meets Policy" and will be of interest to trainees, academics, and health system stakeholders.

All Authors: Logan Lawrence, Danielle Rice, Stephanie Aboueid, Elena Lopatina, Natasha Gallant, Kaitlyn Tate, Daman Kandola, Chantelle Recsky, Sophie Roher, Ting Yu, Melita Avdagovska, Joslyn Trowbridge

ID: 399

Author: Doug Manuel

Title: A data science tool kit has emerged to support Open Science

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: A toolkit has emerged and has been embraced by many science disciplines. In health research, however, uptake is limited, including in the area of health services and policy research.

The toolkit supports four imperatives: i) concern regarding a crisis in research reproducibility, ii) research and analyses that have become increasingly complex (big data, complex models), iii) renewed interest in Open Science (open data, source, methodology, peer review, access, and education), and; iv) expanded collaboration (multiple disciplines and jurisdictions).

The toolkit is not a single application; instead, it is a range of separate applications, programs, standards and methods.

Objectives:

- To discuss data science approaches to research that has the potential to improve research transparency, reproducibility, quality, efficiency and implementation.
- To gain knowledge of the specific components of the toolkit.
- To share what parts of the toolkit are used in different Canadian health service research/policy settings and jurisdictions.
- To discuss the opportunities and barriers to implement the toolkit.

Invited Experts: Therese Stukel is a Professor at the University of Toronto, and Senior Scientist at ICES and the Sunnybrook Research Institute. She leads data science at ICES. Douglas Manuel is a Senior Scientist at the Ottawa Hospital Research Institute and ICES, and senior medical advisor at Statistics Canada. He leads the Project Big Life team, which develops and implements as online calculators at www.ProjectBigLife.ca. Stacey Fisher is a Ph.D. candidate at uOttawa, uToronto, ICES, who works in the field of health services and population health research. She is writing her thesis reproducible code including R packages. Yulric Sequeira is an electrical engineer and the lead developer at Project Big Life.

Approach: The panel will include the perspectives of institutions (Stukel), research teams (Manuel), trainees (Fisher) and other disciplines (Sequeira). Audience members will be encouraged to discuss their knowledge and experience using the toolkit, include barriers and facilitators.

Specific components and use cases of the toolkit will be introduced and discussed, including version-control software (git) and repositories (e.g. GitHub), improved handling of metadata (DDI, RDF), use of open software and notebooks, creation and use of reusable and semi-automated code, analyses validation and reproducibility checks, development of interactive data visualizations, publication of machine-readable/actionable documentation, stronger collaborations with computer science and software engineering.

All Authors: Doug Manuel, Therese Stukel, Yulric Sequeri, Stacey Fisher

ID: 610

Author: Carrie McAiney

Title: Preparing for the National Dementia Strategy: Insights from the Canadian Academy of Health Sciences' Assessment on Dementia Care in Canada

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Over 400,000 Canadians currently live with dementia. With the aging of the population, this number is expected to increase significantly. Dementia affects not only those with the condition, but family members and friends, impacting over 1 million Canadians directly or indirectly. Dementia also poses significant challenges to health and social care systems. To prepare for these challenges, the federal government has committed to developing a national dementia strategy. The Canadian Academy of Health Sciences (CAHS) was asked to conduct an assessment of dementia care in Canada that would be used to inform the development of the strategy.

Objectives: The objectives of the panel presentation are:

- 1) To provide background information about the purpose and scope of the assessment on dementia, and the approach taken in conducting the assessment;
- 2) To outline the areas examined in the assessment and share the key findings; and
- 3) To provide an opportunity for attendees to reflect on the key findings and share insights.

Invited Experts: Three members of the CAHS expert panel on dementia care will participate in the panel presentation. All have different areas of expertise related to dementia and will speak to key findings in the report. Participants include:

Panel Presentation Chair: Carrie McAiney, PhD, Schlegel Research Chair in Dementia with the Schlegel-UW Research Institute for Aging and an Associate Professor in the School of Public Health and Health Systems at the University of Waterloo.

Panel Members:

- Janice Keefe, PhD, Professor and Chair of the Department of Family Studies and Gerontology and Director of the Nova Scotia Centre on Aging at Mount Saint Vincent University.
- Isabelle Vedel, MD, PhD, Assistant Professor in the Department of Family Medicine at McGill University.

Approach: The CAHS convened a 6-member expert panel to conduct an assessment of dementia care in Canada. Because the assessment would be used to inform the development of the national dementia strategy, an expedited process was undertaken. The assessment examined literature and best practices in the identified areas, highlighting challenges, public policy responses, current and emerging best practices, and key findings.

The act of parliament determined the scope of the assessment. Specifically, panel members examined the areas of: prevention, awareness, health and social care, education and support for caregivers, and research related to dementia. The act of parliament also invited the exploration of other areas based on current thinking and research in the field. Thus, the panel also examined literature and best practices related to the engagement of persons living with dementia, development and support of the dementia workforce, and considerations related to the implementation of dementia strategies.

All Authors: Carrie McAiney, Janice Keefe, Isabelle Vedel, Howard Bergman, David Hogan, Debra Morgan

ID: 583

Author: Deirdre McCaughey

Title: Developing Performance Indicators for Community-Based Healthcare: The Science Behind the Framework

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Community-based health care (CBHC) is an integrated health system structured around individuals and communities to enhance how people are connected to healthcare and services. It is attained through optimal coordination of integrated, team-based care covering a broad range of primary-care services across the care continuum. Today CBHC varies in its adoption and execution across Canadian health systems with no specific framework for defining and operationalizing CBHC in Canada. Developing a set of evidence-based indicators for use in measuring the implementation and outcomes of CBHC programs offers all Canadian healthcare systems a means by which to operationalize and evaluate CBHC programs.

Objectives: Our panel will present the processes used by our research team to develop a set of CBHC indicators that cross all levels of CBHC initiatives (e.g. system, organization, frontline care) and the framework that emerged for organizing CBHC processes and outcomes.

Specifically, members of the panel will address:

1. The process used to identify CBHC indicators;
2. The modified Delphi methodology and how indicators were examined and identified as clusters into system, strategic, tactical, and transactional levels;
3. The inter-relatedness of the indicators at each level and how they build upon each other at each successive level.
4. The framework that emerged to classify CBHC

Invited Experts:

- Dr Deirdre McCaughey: will discuss the partnership with the health ministry and processes used to develop the CBHC framework and indicator set. She will share how the partnership fostered end-user engagement and support.
- Dr Natalie Ludlow: will discuss the status of CBHC across the country and how CBHC initiatives are classified, at what levels they are occurring, and how they are translatable across health ministries in Canada.
- Dr Maria Santana: will discuss the Delphi panel and the CBHC indicator review process. She will share how the indicators were classified (system, strategic, transactional, and tactical) and how these indicators serve as both process and outcome measures in evaluating CBHC initiatives
- Dr William Ghali: will present the CBHC framework that was developed from this work. He will discuss how it informs CBHC initiatives across multiple levels of healthcare delivery and is integrated to support optimal care delivery across the continuum of care.

Approach: Using recent research designed to develop a CBHC evaluation framework, our panel of experts will share experiences and expertise on the importance of rigorous scientific approaches to developing performance measures health services research. Discussion will focus on the processes to used to develop a set of CBHC indicators. These processes include a) literature review to identify current CBHC evaluation frameworks and possible metrics, and of best practices in indicator selection and utilization, b) an environment scan of current indicators in use pan-provincially, and c) a modified Delphi process to organize and identify CBHC indicators at each level of CBHC programming (e.g. system, organization, frontline care). In this session, we will present our CBHC processes and share with the audience how these processes succeeded in creating our end results: an evidence-based framework for classifying and categorizing CBHC indicators and the indicator set that derived from our Delphi panel.

All Authors: Deirdre McCaughey, Natalie Ludlow, María José Santana, Sydney Haubrich, Connie Yang, Jill de Grood, William Ghali

ID: 635

Author: Kimberlyn McGrail

Title: Bringing the SPOR National Data Platform to Life

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: The Pan-Canadian Real-world Health Data Network (PRHDN) has been working for several years on ideas that will support researchers who are interested in multi-jurisdictional research that cannot be undertaken with existing pan-Canadian processes through CIHI or Statistics Canada. In late 2018 our Network was awarded a seven-year grant from CIHR that will support the pursuit of this vision. Our objectives include supporting data access, building algorithms and harmonized data, enabling advanced research capabilities including tools for AI and distributed analysis, as well as public / patient engagement and Indigenous community engagement around data access governance.

Objectives: Our objectives for this session are:

1. To share our overall vision and ultimate aims, highlighting how this Platform will change researchers' experience in pursuing multi-jurisdictional research;
2. To provide concrete details about our initial activities, along with timelines for new services and opportunities;
3. To identify how our work relates to and/or leverages the work of other networks and initiatives, including for example SPOR and other research networks, work on data governance, and ongoing research on related topics such as public engagement;
4. To solicit input on data, supports and services that will help researchers pursue innovative, cutting-edge research.

Invited Experts: The panel will include several members of our Network, including:

- Kim McGrail, NPI for the SPOR National Data Platform, Scientific Director of Population Data BC and Professor at the Centre for Health Services and Policy Research, UBC
- Denis Roy, Co-I, and Vice President of Science and Clinical Governance at INESSS (Institut national d'excellence en santé et en services sociaux / Institute for Excellence in Health and Social Services)
- Michael Schull, Co-PI and President and CEO of the Institute for Clinical and Evaluative Sciences
- Alison Paprica, Co-I and Vice President, Health Strategy and Partnerships at the Vector Institute
- Brent Diverty, Co-PI and Vice President of Programs at the Canadian Institute for Health Information

Approach: We will use a combination of approaches through this panel session. We will start with a presentation that will cover Objectives 1 and 2. We will then provide some examples for Objective 3 - e.g. describing our relationship with pan-Canadian cohorts and our support for priorities of the SPOR-funded Networks and researchers. This will be followed by a question and answer period with attendees around other initiatives that may be relevant to the SPOR National Data Platform Development. Finally, we will spend 30-40 minutes on a live-polling process that will solicit input on priorities that will help support the ambitions of the HSPR community.

All Authors: Kimberlyn McGrail, Michael Schull, P. Alison Paprica, Denis Roy, Brent Diverty

ID: 578

Author: Meghan McMahon

Title: Training for Impact: Lessons Learned from the Health System Impact Fellowship's Enriched Core Competencies

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: An enriched core competency (ECC) framework for health services and policy research (HSPR) was introduced in 2016. Its goal was to align competencies emphasized in doctoral curriculum with skills needed to maximize the impact of graduates in a diverse range of employment sectors and emerging career opportunities, like the learning health system. The inaugural cohort of 46 Health System Impact (HSI) Fellows piloted a training program for the ECCs, presenting an opportunity to learn whether an embedded fellowship contributes to the preparation of PhD graduates with the research and professional skills to make an impact in diverse health system settings.

Objectives: We will engage CAHSPR participants in discussion about competencies HSI fellows require to make an impact within health system organizations. Objectives include, to: (1) present results of a study that analyzed how the Fellows' ECCs evolved over the first year of fellowship and whether fellows' and supervisors' assessments aligned; (2) illustrate the competencies in action and the skills required to add value within the health system from the perspective of Fellows and health system supervisors; (3) open dialogue about how to institutionalize the ECCs in academic training programs to ensure all HSPR PhD trainees have opportunities for ECC development.

Invited Experts: Invited experts include HSI Fellowship program leads (SB, MM), current and alumni HSI Fellows with experience in different jurisdictions and types of organization (DS, ODP), and HSI health system supervisors from different jurisdictions and types of organizations (TN, JK):

- Dr. Stephen Bornstein (Chair): Director, Newfoundland and Labrador Centre for Applied Health Research; Professor, Memorial University; Co-Chair, Training Modernization Working Group
- Dr. Tom Noseworthy: CEO, BC Academic Health Science Network and Health System Impact Fellowship Supervisor
- Ms. Janet Knox: CEO, Nova Scotia Health Authority and Health System Impact Fellow Supervisor
- Dr. Olivier Demers-Payette: Professionnel scientifique en méthodologie, Institut national d'excellence en santé et en services sociaux (Health System Impact Fellow alumni)
- Dr. Deepa Singal: CIHR-MSFHR Health System Impact Fellow, UBC-BC Academic Health Science Network
- Ms. Meg McMahon: Associate Director, CIHR Institute of Health Services and Policy Research; PhD candidate IHPME, University of Toronto

Approach: The approach is multipronged and involves formal presentation, brief case studies and active dialogue between panelists and participants. The panel will commence with a brief presentation to set the context and present results of the ECC analysis. The lived experience of HSI Fellows and HSI health system supervisors will be shared through brief case studies that illustrate which competencies were most used, most valued, and in most need of further development. Panelists and participants will be invited to reflect on the role of universities in preparing PhD trainees for success in academic and applied health system settings and to vote on different potential models for expanding access to ECC training.

All Authors: Meghan McMahon, Stephen Bornstein, Tom Noseworthy, Janet Knox, Deepa Singal

ID: 505

Author: Dorina Simeonov

Title: Networks Matter: Building Innovation Communities to drive Health System Change

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Health systems across Canada are aging poorly. Healthcare provision remains fragmented, information is in silos, and regulatory barriers prevent technology from optimizing professional practice and patient engagement. By 2041 the number of Canadians 65 and over will double to 4.5 million, or 25% of the population. This will place unprecedented strain on our health and social service systems.

This panel explores regional innovation ecosystems, networks, and policy-research partnerships to accelerate innovation in the “aging space.” Members and partners of AGE-WELL, Canada’s Technology and Aging Network, will discuss the importance of forming innovation communities to inform and maximize impact in policy.

Objectives: Although national networks bring together different perspectives and foster new collaborations, providing a critical consolidator role, research indicates that innovation happens at a regional level. The goal of this panel will be to discuss the following questions at both regional and national levels:

1. What makes a good network partner?
2. How can end users, organizations, and healthcare providers form network partnerships and innovation communities to strengthen health systems in Canada?
3. What makes research-policy partnerships work in the technology and aging sector and beyond?
4. How can technology promote rapid learning health systems?

Invited Experts:

- Jim Mann, Alzheimer’s advocate and member of AGE-WELL’s Research Management Committee will bring his perspective as an individual living well with Alzheimer’s and being involved with research at a network level.
- Dr. Josephine McMurray, Associate Professor at Wilfrid Laurier University, will present insights from her research in building supportive regional ecosystems to develop, commercialize or adopt innovative health and age-related technologies.
- Dorina Simeonov, Policy and Knowledge Mobilization Manager at AGE-WELL, will provide a national and international perspective of how networks foster innovation and can lead the way for health system change.
- Candice Redman, Senior Policy Analyst at the Nova Scotia government’s Department of Health and Wellness will bring her perspective of engaging with the APPTA hub on issues like the social isolation of seniors.
- Dr. Michael Wilson, Associate Professor at McMaster University will discuss how we can harness the potential of technology to encourage learning health systems.

Approach: AGE-WELL’s approach aligns technology, policy and practice, and the service delivery models required to implement solutions in the real-world. From investigating regional innovation ecosystems to engaging healthcare partners and policy makers, AGE-WELL’s network approach is focused on building transdisciplinary teams and supporting knowledge translation and commercialization.

AGE-WELL has launched three national innovation hubs, one of which is based in New Brunswick and focuses on Advancing Policies and Practices in Technology and Aging (APPTA). Innovation hubs are partners in ecosystems where end users, healthcare providers, government, researchers, industry, community, and others can interact and generate novel solutions together. The APPTA hub is putting innovative research in aging into the hands of policy makers across Canada. AGE-WELL is also focusing its research agenda on eight challenge areas which include supportive homes and communities as well as health care and health service delivery – areas where technology can contribute to learning health systems.

All Authors: Dorina Simeonov, Jim Mann, Michael Wilson, Josephine McMurray, Alex Mihailidis, Candice Redman

ID: 510

Author: Lisa Starr

Title: Pragmatic strategies supporting multi-site community-based research: responding to local context while ensuring methodological coherence across contexts

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Many attempts have been made to facilitate team-based, collaborative service delivery models to address the access needs of vulnerable populations. These approaches are often designed and implemented by health service authorities for application in communities. Increasingly, it is recognized that community must be engaged in designing sustainable solutions to overcome barriers to access. IMPACT research intentionally designed strategies to ensure interventions across six sites were tailored to local context while ensuring consistency in overall implementation approach across sites. The lessons learned from this research will inform future scale and spread of sustainable interventions through linking research, policy and practice innovations.

Objectives: Through this panel we aim to:

- Familiarize participants with the approaches and tools that supported cross-case coherence and integration of intervention design, implementation and evaluation
- Share concrete examples of tools and approaches for continuous improvement interventions throughout implementation
- Share tips for developing partnerships among researchers, decision-makers and patients to facilitate community-based design and implementation of interventions
- Stimulate discussion regarding balancing the need for contextual relevant interventions with the desire to achieve common outcomes across contexts

Invited Experts: The three panelists have worked together over the past six years under an international program to address gaps in access to PHC funded by CIHR SPOR for \$5 million. Each successfully implemented an innovative approach responding to the needs of a local vulnerable population.

- Simone Dahrouge, Associate Professor, University of Ottawa and founding Director of the Ottawa Practice Enhancement Network, is interested in population health, patient engagement, and how PHC organizational attributes support performance and equity.
- Jeannie Haggerty, McGill Research Chair in Family and Community Medicine, studies measures of patient experiences of patient-centered health care, access and continuity, and how these relate to changes in organizational and professional practices.
- Cathie Scott, Chief Knowledge and Policy Officer at PolicyWise for Children & Families and Assistant Professor at the University of Calgary, has expertise in collaboration/partnerships to facilitate community-based health and social service innovations and integrated service delivery.

Approach: Following a brief overview of the approaches and tools used throughout the IMPACT program of research, each panelist will describe the innovation implemented in their region and the strategies for designing interventions with communities so that they are responsive to context while measuring common outcomes and adhering to the overarching research design. The presentation will wrap up with a summary of the elements the panel proposes are essential to effective, acceptable, and potentially scalable interventions.

The presentation will be followed by a facilitated discussion with audience members seeking input about the panelists' experiences.

All Authors: Simone Dahrouge, Jeannie Haggerty, Cathie Scott

ID: 365

Author: Erin Strumpf

Title: Patient Enrolment in Primary Care: Policies, Perspectives, and Population Health Outcomes

Type of Abstract: Panel Presentation

Importance and Relevance of Topic: Enrolling patients with primary care providers (e.g., rostering) is an integral aspect of strong primary care systems and reflects the importance of the patient-provider relationship to outcomes across the care continuum. In Canada, provinces have developed policies using differing approaches to encourage patient enrolment. However, evidence on the impacts of enrolment and enrolment policies remains scant. Little is known regarding how patients or providers perceive these policies or what their impacts are on processes and outcomes of care. This research topic is also well-positioned for patient engagement and the involvement of patients as members of the research team.

Objectives: We will discuss results from an interdisciplinary, mixed methods, interprovincial research project, funded by the CIHR SPOR Network in Primary and Integrated Health Care Innovations. Research team membership includes four patients as research team members. Using the “enrolment-attachment-continuity” conceptual framework developed for this project, we will discuss how we worked together as a team, including our approaches to collaborating with patient partners. We will also present an overview of our project findings on how patients and physicians perceive patient enrolment policies and our estimates of the impacts of enrolment policies on patient-physician attachment and access to care.

Invited Experts:

- Erin Strumpf (McGill University) is a co-PI on the QC-BC Patient Enrolment Team, and an expert in using quantitative data to evaluate policy interventions in health and health care.
- Laurie Goldsmith (GoldQual Consulting & SFU) is a co-PI on the QC-BC Patient Enrolment Team, and an expert in access to care and qualitative and mixed methods health services research.
- Marilyn Parker (Kelowna, BC) is a patient partner on the QC-BC Patient Enrolment Team, a member of the BC Patient Voices Network. She is an expert in patients’ lived experience and patient advocacy.
- Catherine Hudon (Université de Sherbrooke) is co-investigator on the QC-BC Patient Enrolment Team. She is a clinician researcher with expertise in patients with complex care needs.
- Emily Gard Marshall (Dalhousie University) uses mixed methods research to examine access, continuity, and comprehensiveness in primary healthcare. Her research aims to improve access, equity and optimize patient and provider outcomes.

Approach: Our stakeholder team members – patient partners, primary care providers, and provincial decision makers – have shaped this project and they are represented on the panel. All team member panelists will reflect on the elements that helped with enrolment, attachment, and continuity to our research team and the research itself. Research team panelists will also consider research wish lists for similar work. An additional panelist is a content and methods expert from outside the project, who will help synthesize the discussion and provide reflections on future directions. We will also share some findings from our qualitative and quantitative investigations of whether and how patient enrolment may improve patient experiences, continuity of care, and policy-relevant health care system outcomes such as patient-physician attachment and access to care.

All Authors: Erin Strumpf

ID: 291

Author: Lindsay Allen

Title: The Way Forward; Healing the Relationship Between Western and Indigenous Medicines

Type of Abstract: Poster Presentation

Background and Objectives: Indigenous people in Canada face alarming health inequities, inadequate access to health care, and culturally incongruous services. Colonialism and racism (including the suppression of traditional Indigenous health and healing practices) are key contributing factors. Health services that incorporate traditional healing improve access, adherence, and outcomes. This paper will provide an overview of Indigenous/Western partnerships functioning as inter-professional health services, building an understanding of the barriers that policy-makers can remove to facilitate inter-cultural collaborations going forward.

Approach: The research paradigm will be pragmatic, choosing from an interdisciplinary toolbox for efficacy and appropriateness. The ontology will be based on ways of being in Indigenous-settler relationships, acknowledging socio-historical realities, and dialogical for reconciliation. The epistemology will understand knowledge to be multiple, situated, and challenging systems built on white supremacy and colonization. The design will be a qualitative, honouring but not appropriating Indigenous methodology, using anti-colonial settler methodology. The guiding principles will be cultural respect, settler responsibility, and benefit for Indigenous communities. The method will be a review of all literature relevant to Indigenous-Western health service partnerships in Canada.

Results: It is expected that this review will demonstrate clear benefits to Indigenous-Western health service partnerships, including reduced rates of substance abuse, FAS, and HIV mortality, and improved access to care, adherence to care plans, infant birth weights, mental health status, uptake of trauma/addictions treatment, emergency response times, patient self-responsibility, health system literacy, nutritional status, and social well-being.

Preliminary results show that: 1. While physicians feel Indigenous medicine plays an important role, patients fear disclosure, 2. Indigenous people want traditional and integrated services, physicians typically welcome partnership opportunities but lack formal means of doing so, 3. Service models exist across varying degrees of cooperation (e.g., mutual referrals, co-creating care plans), and 4. Numerous leading examples exist in Canada, but there is no comprehensive national strategy.

Conclusion: It is anticipated that key recommendations will include developing inter-cultural partnerships relevant to local Indigenous communities' culture and needs; Relationship-building through inter-professional conferences, workshops, and ceremonies; Policies that facilitate formal referrals; Anti-racist educational opportunities; and Elders, healers, and community leaders consulted, included, and respected in service planning and delivery.

All Authors: Lindsay Allen, Andrew Hatala

ID: 167

Author: Enam Alsayheem

Title: The Lived Experiences of Middle Eastern Immigrant Women during their Cancer Survivorship Journey

Type of Abstract: Poster Presentation

Background and Objectives: Cultural beliefs and values influence cancer survivorship (CS) experiences and outcomes. The number of Middle Eastern immigrant women (MEIW) living in Canada has significantly increased; however, there is little known about their CS journey. This study aims to understand the lived-experiences of MEIW in New Brunswick (NB) during their CS journey. The results of this study will enhance healthcare providers' understanding of MEIW's cultural beliefs and attitudes towards health and illness during their CS journey.

Approach: A descriptive phenomenological approach is used to conduct this qualitative study. The sample for this study is a snowball sample of eight MEIW who are between the ages of 20 and 65, diagnosed with cancer within the last five years, reside in NB, and able to speak English or Arabic. A detailed description of each participant's CS journey is collected through an unstructured in-depth interview. Each participant is asked one interrogatory statement "As a Middle Eastern immigrant woman in Canada, please describe your lived experiences during your cancer survivorship journey." Data is analyzed using Giorgi's descriptive phenomenological method.

Results: The preliminary results of this study have identified that religious spirituality and social support have helped participants to maintain control of their life during the CS journey. Family and friends provide the primary source of social support for MEIW in this study. Participants have described that, as immigrant women, the CS journey is challenging. Participants have described how the cancer care process, lack of social support from healthcare providers, and cancer outcomes have affected their psychological health and family well-being.

Conclusion: The results of this study will be of interest to healthcare professionals and administrators who work with MEIW. The findings of this study are expected to add to the discussion on culturally competent care for this group of immigrant women and guide improvements to patient-oriented cancer care in NB.

All Authors: Enam Alsayheem, Catherine Aquino-Russell

ID: 541

Author: Jeffrey Ames

Title: Healthcare Costs and Utilization in Young Adults with Cirrhosis: A Population-based Study.

Type of Abstract: Poster Presentation

Background and Objectives: Healthcare expenditure in Canada continues to rise at an alarming rate with chronic diseases accounting for the majority of the costs. Recent data from Ontario has shown that the burden of cirrhosis has increased significantly over the past 20 years and is disproportionately rising in young adults. The aim of this study was to quantify healthcare costs and describe healthcare utilization in this population to facilitate future healthcare planning.

Approach: This is a retrospective population-based study from Ontario using the database holdings of ICES from January 1, 2007 - December 31, 2016. Individuals with cirrhosis between the ages of 18-50 identified based on a validated case definition were included. After adjusting for inflation, annual total direct healthcare costs were calculated stratified by sex and hepatic decompensation across multiple healthcare settings including inpatient, outpatient, pharmacy, long-term care, and the emergency room. Healthcare usage was described across the same settings in addition to 30-day hospital readmissions and ICU admissions.

Results: During the study period the annual total direct healthcare costs in young adults with cirrhosis increased by over \$191 million (2007: ~ \$248 million vs. 2016: ~ \$439 million), representing a 177% increase and almost 1% of the entire provincial healthcare budget. In 2016, the average annual cost per patient was \$8,140 and was similar between sexes (males \$8,205 vs. females \$8,050). However, annual costs were over 3-fold greater in those with decompensated cirrhosis compared to those with compensated disease (\$22,866 vs. \$6,421 respectively) mostly driven by higher inpatient expenses. In 2016, 12.5% of patients required a hospital admission, 34.7% presented to the emergency room, and 7.6% required homecare services. Of all hospitalizations in 2016, 21.5% included ICU admissions and 10% were 30-day.

Conclusion: Healthcare costs in young adults with cirrhosis have risen dramatically over the last decade secondary to an increased burden of disease and high usage of inpatient resources in patients with decompensated disease. These results highlight the need for novel strategies for chronic disease prevention and management in this population.

All Authors: Jeffrey Ames, Maya Djerboua, Jennifer Flemming, Christopher Booth, Norah Terrault

ID: 63

Author: Mohammed Rashidul Anwar

Title: Career Options and Professional Integration of Internationally Trained Physicians in Canada

Type of Abstract: Poster Presentation

Background and Objectives: Many internationally trained medical graduates (IMGs) who immigrate to Canada end up driving taxis or working in other survival jobs, significantly below their education and skill set. Unfortunately, the skills and experiences of these professionals remained unused in the Canadian healthcare. This study explores the barriers faced by IMGs to obtain licensure, alternate career options for IMGs in healthcare and provides recommendations on what both the IMGs and Canada can do better for mutual benefits.

Approach: A literature review of both peer-reviewed articles and grey literature was conducted through a three stage extensive search -

- Published articles in various database using a combination of MeSH terms and keywords relevant to the topic
- Internet search for grey literature using same keywords as well as review of the websites of key stakeholder organizations and relevant federal/provincial government websites. The search also included organizations that serve immigrants and IMGs.
- Reference lists of retrieved articles and reports to identify additional articles.

Recommendations were provided from the findings of literature search and the author's personal experience as an IMG.

Results: The study reviewed, analyzed and summarized the following:

- Routes available for IMGs to become practicing physicians in Canada
- Challenges faced by the IMGs towards the journey of licensure
- Alternate career options
- What Canada Can Do Better?
- Making sure IMGs are aware of their actual chances of obtaining licensure as they consider immigrate to Canada
- Increased residency spots
- Expansion of provincial licencing programs and alternate careers as physician/clinical assistants
- Fast-track educational programs for IMGs recognizing their skills and experience
- IMG bridging programs for non-regulated healthcare jobs and employer outreach
- Increased funding for IMG support organizations
- Developing a system of tracking IMGs after entering Canada and a single hub or portal to provide information about licencing and alternate career options

Conclusion: The 'brain waste' of these IMGs is a matter of great regret. Successful integration of IMGs into healthcare and making best use of their education and trainings will bring great benefit to Canadians.

All Authors: Sanjida Newaz, Mohammed Rashidul Anwar

ID: 144

Author: Hailey Arsenault

Title: Exploring the Alternate Level of Care (ALC) Issue in Prince Edward Island (PEI): A Mixed-Methods Approach

Type of Abstract: Poster Presentation

Background and Objectives: Patients characterized as alternate level of care (ALC) are individuals with outstanding concerns related to their health that are kept in acute care despite not being acutely ill. This suspension in patient care trajectory impacts general patient flow, continuity of care, and the patient's quality of life. The objective of this mixed-methods study is to better understand the current population of ALC in Prince Edward Island (PEI).

Approach: An interdisciplinary, mixed-methods study will be conducted. Administrative data will be collected from Health PEI and descriptive statistics will be conducted to understand the prevalence of ALC in the province. This dataset will include information related to the types of ALC on PEI and geographical where it is most prominent.

For the qualitative portion, approximately 15 ALC patients and caregivers will be recruited through Health PEI and interviewed. Front line health workers (e.g. care providers) will also be interviewed to better understand the culture of ALC in the province

Results: The protocol for this study will be presented to provide the background context of ALC, and more broadly, the healthcare system, in PEI. The details of the implementation of this interdisciplinary mixed-methods process will be discussed, along with the possible anticipated results stemming from both the quantitative and qualitative portions of the study.

Conclusion: This study aims to provide information that will inform patient navigation, patient flow, discharge planning and quality of life for all patients in acute settings in PEI. Moreover, this interdisciplinary healthcare research has the potential to help design and re-evaluate primary health care programs and policy in Prince Edward Island.

All Authors: Hailey Arsenault

ID: 599

Author: Rachelle Ashcroft

Title: Financial and Non-Financial Incentives Influencing Access to care for common mental disorders in Ontario Family Health Teams

Type of Abstract: Poster Presentation

Background and Objectives: A key objective of this study is to understand how the range of financial and non-financial incentives influences access for common mental disorders (CMDs) in interprofessional primary care teams.

Approach: A key objective of this study is to understand how the range of financial and non-financial incentives influences access for common mental disorders (CMDs) in interprofessional primary care teams.

Results: The poster will present findings related to our evolving theoretical model, which specifically describes the types of incentives influencing teams and clinicians, the mechanisms through which these incentives appear to be working, and their impact on access. Participants have identified a wide range of financial (e.g. funding models, remuneration schemes, bonuses) and non-financial (e.g. training opportunities, organizational culture and policies) incentives affecting mental health care, and a number of mechanisms have been revealed (e.g. autonomy, mastery, connectedness). The areas of quality explored in the study include technical care quality, access, equity, structural quality, person-centeredness, and efficiency.

Conclusion: Understanding how various financial and non-financial incentives influences access will help stakeholders understand the levers and pathways of change they can use to improve care quality for CMDs in primary care. This is especially timely for Ontario, where a regional strategy for primary care resources, including the availability and

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Author: Katie Aubrecht

Title: Criteria for Selecting Quality Long-Term Care (LTC) Homes with Promising Social Approaches: Decision-Maker Perceptions and Preferences

Type of Abstract: Poster Presentation

Background and Objectives: The multi-provincial Seniors-Adding Life to Years (SALTY) project aims to add quality of life to late life for older adults living in long term care (LTC). This poster presentation shares results from qualitative research conducted to identify the criteria that Nova Scotia long-term care (LTC) program leaders and decision-makers associate with promising social approaches in late life residential care (e.g., approaches that promote comfort, enjoyment, and social engagement).

Approach: To identify nursing homes with promising approaches to LTC in Nova Scotia, our team conducted a study involving 15 semi-structured interviews and one focus group with a purposeful sampling of provincial program leaders and decision makers representing government, non-government, continuing care research, union, industry and advocacy groups. Interviews were digitally recorded, transcribed, and coded and thematically analyzed using manual content analysis and NVivo software. Results were interpreted using a descriptive-interpretive sociological approach. Wordle is used to create word clouds that visualize quality by identifying most frequently used words, and to offer a means of validating findings from the thematic analysis.

Results: Results from the content analysis highlight the saliency of physical location, geographical proximity to home community, LTC home physical design, private rooms, entertainment, appetizing food, and amenities. Culturally appropriate care, care worker and resident safety, and dementia-related education and training and supports and services were also identified as important contributors to quality late life LTC. Results are visually depicted and contextualized through reference to social, demographic, and continuing care service delivery information.

Conclusion: Despite growing recognition of the importance of resident and family preferences in LTC research, limited attention has been paid to decision maker preferences. This poster contributes to knowledge by identifying the criteria that guide decision maker understandings of quality within the Nova Scotia context.

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Author: Dolly Baliunas

Title: If you build it, they will come: a comparison of smoking cessation treatment models in Ontario by demographics, health status and healthcare service utilization.

Type of Abstract: Poster Presentation

Background and Objectives: From its inception in 2005, the STOP program has used 11 treatment models to reach Ontario smokers. Little was known about the sociodemographics, health status, and healthcare utilization of patients served by these models. In order to describe and compare the patients that sought treatment via each of these models, we linked STOP enrollment data to administrative healthcare service utilization data.

Approach: 132,506 enrollments were linked to administrative health databases (96% linkage rate). After validity exclusions and limiting to first enrollment the sample consisted of 107,302 patients who initiated smoking cessation treatment between 18Oct2005 and 31Mar2016. Comparisons of patients served by each model were made. Healthcare service utilization and total healthcare cost were measured for the 2 years up to enrollment. Prevalent physical health conditions were measured by algorithm based on administrative health data. Prevalent mental health conditions were measured by self-report. Personal sociodemographic variables were measured via self-report and neighbourhood sociodemographic characteristics by linkage to indexes by patients' residential postal code.

Results: Females outnumbered males in each model except the Addiction Agency (AA) and Hospital models. The median age was 47 and the Web model was the youngest (median 39). SES was highest in the Pharmacy, Phone and Web models, and lowest in the Community Health Centre, Nurse-Practitioner Led Clinics (NPLC) and AA models. In the two years before enrollment: median healthcare costs were \$2740 and highest in the AA model (median \$9,393). Services used varied by model. COPD and hypertension were the most common physical health conditions, ranging from 14% in the Web model to 31% in Family Health Teams. NPLC and AA models had the highest prevalence of anxiety and depression (>50%). The Phone model had the lowest prevalence of each of mental health comorbidity.

Conclusion: Given the varying patient populations served by these models, tailored programming might best serve the needs of Ontario smokers.

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ID: 555

Author: Ryan Bamforth

Title: Cost of Assisted Dialysis Therapies in Manitoba

Type of Abstract: Poster Presentation

Background and Objectives: The prevalence of kidney failure is increasing in Canada. Most patients will require life-saving therapy with dialysis at a substantial cost to the health care system. Assisted peritoneal dialysis (PD) and assisted home hemodialysis (HD) are home based alternatives to in-centre HD for patients incapable of performing total self-care home dialysis and have demonstrated equivalent outcomes with respect to mortality and morbidity. We aimed to describe the costs associated with these assisted home dialysis modalities.

Approach: We constructed a cost minimization model from the perspective of the Canadian public health payer. We included costs related to human resource expenses, medical and surgical supplies, dialysis-related drugs, equipment, utilities, and capital costs. Cost estimates were sourced from hospital statements of operations, established utility rates, and activity-based dialysis workload estimates.

Results: Annual per-patient maintenance costs of full-assisted PD were estimated at \$75,822, \$59,026 for daily assistance with set-up only, and \$38,658 for self-care patients PD patients with associated training costs of \$0, \$3,776 and \$7,157 respectively. For assisted home HD with visits three times per week, annual per-patient maintenance costs of full assistance were estimated at \$49,253 and \$42,054 for set-up only with associated training costs of \$24,379 and \$14,170.

The model estimated that in-centre HD offered lower overall costs than full-assisted PD. The time frame to achieve cost neutrality from in-centre HD to full-assisted PD was estimated at 5.1 months, 11.1 months from conventional HHD to ICHD, 3.2 months from self-care PD to ICHD and 9.2 months from conventional HHD to full-assisted PD.

Conclusion: Partially assisted home dialysis modalities offer similar or slightly reduced costs compared with in-centre HD. Future studies to consider graduation rates to full self-care from assisted dialysis and the cost implications of respite care are needed.

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ID: 15

Author: Tanya Barber

Title: Using Cognitive Task Analysis in Primary Care: Transformation through Innovation

Type of Abstract: Poster Presentation

Background and Objectives: Transforming health care necessitates engaging with people who work in and use the health care system. What we think are the issues can be different from what is happening and what solutions are needed. Our objective was to adapt and use Cognitive Task Analysis (CTA) to help bring primary care transformation to scale.

Approach: We conducted multiple CTA studies in partnership with researchers, Toward Optimized Practice and the Patient and Community Engagement Research. CTA is a structured set of tools or qualitative methods from the cognitive science and systems engineering literature with a long track record of successfully understanding team functioning in high-stakes settings. CTA digs deeper into the thinking involved in the way people/teams do their work. We also used co-design and purposeful sampling. Participants included family physicians and primary care patients.

Results: Adapting CTA for use in primary care saved time and energy by finding solutions that make sense to those who work in and use primary care: 1) A national organization believed over ordering tests for low back pain was because physicians weren't aware of guidelines, we found other external drivers were pressuring physicians to over order; 2) A research team wanted to create a risk calculator for knee osteoarthritis but physicians/patients wanted an app that would assist with communication and self-management; 3) Discovering how care teams manage change differently helped find practical, scalable solutions and supports; and 4) Knowing the characteristics of an effective change agent allows us to look for and potentially train those traits when identifying new change agents.

Conclusion: Partnering has helped provide insights around team functioning, how teams adopt change, and understanding patients beliefs to ensure we build initiatives that meet their needs. Using CTA led to an overall impact of real, practical solutions that health care teams and policy makers can use to improve patient care.

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ID: 383

Author: Imaan Bayoumi

Title: Consequences of and interventions to address lack of attachment to primary health care: A scoping review

Type of Abstract: Poster Presentation

Background and Objectives: Access to Primary Health Care (PHC) is the foundation of a high functioning health care system. Despite universal health insurance, some Canadians remain unattached to a regular PHC provider. Our objectives were to synthesize existing knowledge regarding the consequences of being unattached, particularly for vulnerable or transient populations, and effectiveness of interventions to enhance patient attachment to a PHC provider. This work is part of a broader project focused on patient attachment in Ontario, Canada.

Approach: To address our objectives, we performed a scoping review. Abstracts addressing attachment, lack of attachment, consequences of attachment/unattachment, low attachment, interventions to improve attachment, and attachment and vulnerable populations were included and synthesized. No exclusions for study design or jurisdiction were applied. Medline was searched for studies published from 1946-June 2018. Abstracts and full text articles were assessed using single review.

Results: The initial search yielded 336 citations; 79 studies were assessed in full-text and 45 met inclusion criteria. Barriers to attachment include mental illness, substance use, low income, uninsured or Medicaid status, race and recent immigration. Unattached patients experience lower quality of care, less chronic disease management and preventive care, and higher inpatient hospitalization and 30 day readmission rates. Unattached patients with low socioeconomic status, but not immigrants, have higher daytime emergency department utilization (evening use may be related to after-hours access). Centralized waiting lists were only effective where there was a sufficient supply of providers to meet the demand. No quantitative studies focused on interventions to improve attachment. Attachment was associated with more personalized care, greater confidence in care and more trusting relationships.

Conclusion: Vulnerable groups experience greater barriers to attachment to primary care. Unattached patients experience lower quality of care, higher inpatient hospitalization and readmission rates, and higher daytime ER utilization. Centralized wait lists can help with attachment. There is a need for additional research on effective strategies to improve attachment.

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Author: Christine Beaulieu

Title: “Need help navigating the health system?” Mixed Methods Evaluation of a Lay Volunteer Telephone Service to Support Patient Navigation in Quebec

Type of Abstract: Poster Presentation

Background and Objectives: To address the important number of patients without a family physician, the Quebec Ministry of Health created a centralized waiting list. Evidence shows that patients from disadvantaged neighbourhoods often stay longer on the waiting list (≥ 3 years) and face multiple barriers in connecting with a family physician. We present results from the evaluation of this innovative intervention implemented in two Quebec regions to facilitate the attachment of vulnerable patients through the centralized waiting list.

Approach: IMPACT is a 5-year Canada-Australia research program aiming to co-design, implement and evaluate interventions to improve access to primary healthcare (PHC) for vulnerable populations. In Quebec, a partnership of physicians, researchers and decision-makers developed a telephone support service offered by lay volunteers to help patients from disadvantaged neighborhoods on the centralized waiting list connect with their newly assigned family physician. The service helps patients prepare for their appointments and addresses access barriers. Evaluation: Mixed-methods approach using interviews (n=19) and surveys pre/post intervention (n=59). Outcomes measures and themes were conceptualized & integrated based on Levesque et al.’s access framework (2013).

Results: Outcomes are measures and themes conceptualizing access to PHC (Levesque, Harris, Russell 2013) including, in particular “approachability” and “appropriateness”. The service improved patients’ “ability to reach” and “ability to engage”: it helped patients access the right service at the right place at the right time. The personal approach of the navigation service, by a lay volunteer, creates the foundation for a positive and enduring patient-physician relationship, leading to decreased emergency department use for minor care, lower likelihood of unmet needs and increased likelihood of successful patient-physician attachment. Volunteers provide appreciated support to PHC clinics physicians and staff by alleviating feelings of work overload and contribute to fostering positive feelings in disadvantaged patients towards their newly assigned PHC clinics and physician.

Conclusion: Lay volunteers are a low cost resource that facilitate patient-physician attachment and enduring relationships between patients and family physicians. This intervention proves to be a particularly beneficial approach to improve access to PHC for patients from disadvantaged neighborhoods who may face barriers to accessing healthcare.

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Author: Krystal Binns

Title: A LIVING LABORATORY SUPPORTING INDIVIDUALS WITH COMPLEX CARE NEEDS: UNB'S CENTRE FOR RESEARCH IN INTEGRATED CARE

Type of Abstract: Poster Presentation

Background and Objectives: Individuals with complex care needs require more healthcare services than the average population. These individuals have better outcomes if they have access to integrated services across settings and sectors. Although promising research initiatives are underway in New Brunswick, many have been undertaken independently of one another. It is critical to provide a platform to ensure effective collaboration among stakeholders in this field, hence the development of the 'Centre for Research in Integrated Care' (CRIC).

Approach: CRIC is a collaborative living laboratory that develops and evaluates integrated models of care that are patient-centred and meet the unique needs of individuals with complex health and social concerns. A living lab provides researchers, knowledge users, and patients a real life setting where innovative ideas can be explored and modified as needed throughout the research process. It also serves as a venue to make important policy advancements in an efficient manner. CRIC is a transformative teaching centre for research trainees and clinicians and provides training to promote the establishment of a team of highly impactful health researchers across NB.

Results: As a living laboratory, CRIC will create an ecosystem where diverse stakeholders can co-create knowledge and solutions to contemporary health and social problems that face this province and support research programs that transcend traditional disciplinary boundaries. The establishment of a formal centre will help attract new research funding, which will support ongoing and future research. There is a critical mass of stakeholders committed to this endeavor, with opportunities to not only nurture existing partnerships, but also create new partnerships in our region, across Canada, and beyond.

Conclusion: The sustainability of the NB health care system is dependent upon finding new ways to meet the needs of individuals facing complex health concerns. CRIC bridges the gap between researchers and clinicians by acting as a platform to foster innovative and integrated health services across settings and sectors.

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ID: 449

Author: Ivy Bourgeault

Title: Empowering Women Leaders in Health Care, Health Sciences & Indigenous Health Contexts in Canada

Type of Abstract: Poster Presentation

Background and Objectives: Women constitute over 80% of health workers in Canada, yet they occupy proportionately fewer leadership positions. The pace at which women attain leadership positions is slower than would be anticipated given their historical and increasing representation in the health labour force. Indigenous and Two Spirit Women holding leadership positions in the health context is also under-represented, which undermines the opportunity for a systemic-level response to the Truth and Reconciliation Commission (2015) Calls to Action.

Approach: The Empowering Women Leaders in Health (EWoLiH) initiative aims to achieve gender equity in the health care, health sciences, and Indigenous health contexts. EWoLiH applies a set of evidence-informed tools to increase the participation, visibility, and advancement of women. This poster outlines: 1) the evidence-informed framework of challenges and enablers to women's leadership in these domains from a scoping review of the published (n=111) and grey (n=42) literature and input from interviews and learning labs discussions with over 50 women leaders; and 2) a tool kit of promising individual, team, organizational, and system level practices organized along this framework.

Results: Across the health care, health sciences, and Indigenous health literatures, we know more about the barriers than facilitators that foster women's leadership. Where the literature includes an intervention, it is often only described and not evaluated. There is also a tendency for interventions to focus on the micro as opposed to the meso/organizational or macro/policy level. These are important gaps to address in the pursuit of systemic change fostering greater equity. There is also a notable absence of literature on how we can and need to engage men to be part of the solution to facilitate the inclusion of women leaders. The literature on women and Two Spirit leadership in Indigenous health is particularly sparse, which has produced an extensive knowledge gap in this sector.

Conclusion: There are evidence-informed promising practices at the individual, team, organizational, and system levels to advance women's participation in leadership positions, which can be applied to their health care and health science settings. There is also a unique context for Indigenous women leaders in health care and health science contexts.

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ID: 554

Author: Ivy Bourgeault

Title: Healthy Professional Workers: A Gendered Analysis of Mental Health and Workplace Stressors

Type of Abstract: Poster Presentation

Background and Objectives: This paper examines the workplace mental health experiences of professional workers from a gender lens. Professional workers are a particularly interesting set of workers to examine the experience of mental health issues because of the importance of mental acuity and the provisions of professional service work and the threat of their disclosure of mental health to their license to practice. Links between professional acuity, mental health and gender are neglected in the literature.

Approach: Quantitative analyses from two data sources: the 2013/14 Canadian Community Health Survey (N = 5,300) and the 2012 CCHS Mental Health and Well-being (N = 1,100) were conducted with a focus on the case study professions of accounting, academia, dentistry, medicine, nursing and teaching (primary and secondary). The workers we focus on represent a mix of sex and gender composition and work context features that the literature suggests are important to the experiences of workplace mental health.

Results: Compared to non-professional workers, the selected professions were more likely to include women with a higher than average age compared with non-professional workers. As a group, they reported higher self-perceived general health, better mental health, and a lower prevalence of mental disorders, but also higher self-perceived life and work stress than other workers. Compared to non-professional workers, case study professions reported higher psychological demands, higher job security, and higher job control (measures of job discretion and job authority) but lower job authority and higher physical requirements. Paradoxically, they experienced both higher job satisfaction but also higher work absences than non-professional workers. Women in case study professions showed higher job strain, physical exertion, and lower job authority than men.

Conclusion: Better understanding the unique workplace mental challenges faced by male and female professional workers across a range of service sectors will help to improve target interventions that foster enhanced workplace wellness and in turn professional services to clients, students and patients.

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ID: 86

Author: Jonathan Bourgon Labelle

Title: Validation of an algorithm to detect new onset of atrial fibrillation after cardiac surgery from administrative data.

Type of Abstract: Poster Presentation

Background and Objectives: Postoperative atrial fibrillation (AF) is a frequent complication of cardiac surgery. While discharge diagnostic codes (DDC) could be used to assemble large cohorts of patients to better understand the determinants and outcomes of this complication, the lack of a “present-on-admission” indicator in many jurisdictions currently prevents differentiating between new onset AF and chronic comorbid AF. This study aims to create and validate an algorithm capable of identifying patients with new onset AF following cardiac surgery.

Approach: First, a reference standard was established by manually reviewing the medical charts of 976 cardiac surgery patients from two large university health networks in Quebec. Then, various combinations of discharge and procedure codes from the current and previous hospitalizations from the past year, as well as different look-back windows (e.g. 1, 3 or 6 years) were used to generate the algorithm. The accuracy of this algorithm, overall and per site, was assessed in comparison with the reference standard, and estimates of sensitivity, specificity, positive (PPV) and negative (NPV) predictive values were generated along with their 95%CI.

Results: 324 cases of new onset of AF were identified after manual chart review. The final algorithm achieved acceptable validity, with sensitivity of 70.4% (95%CI: 65.1-75.3), specificity of 84.4% (95%CI: 81.3-87.1), PPV of 69.1% (95%CI: 63.8-74.0) and NPV of 85.1% (95%CI: 82.2-87.8). This algorithm was based solely on discharge diagnostic codes and used a look-back window of 1 year to exclude patients known for prior episodes of AF. The accuracy of this algorithm did not improve with the inclusion of selected procedure codes (e.g. maze procedure), nor by using longer look-back windows (e.g., 3 or 6 years). Finally, significant differences in the accuracy of the algorithm across sites was observed on sensibility and on NPV, most likely attributable to variations in coding practices.

Conclusion: An algorithm based solely on DDC from the current and previous hospitalizations over the past year can accurately identify patients with acute episodes of AF. However, future work must include more clinical information, like that contained in computerized dictations of ECG reports, to improve the algorithm’s validity.

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ID: 141

Author: Jonathan Bourgon Labelle

Title: Are hospital nurse staffing characteristics associated to postoperative cardiac events and deaths among patient undergoing surgery? A systematic review

Type of Abstract: Poster Presentation

Background and Objectives: Adequate hospital nurse staffing could potentially reduce preventable cardiac complications (CC) occurring after surgery. While numerous studies have been conducted over the recent years on the topic, to the best of our knowledge, there's currently no systematic summary of this evidence. Such summary is needed to guide nurse staffing decisions. This study aimed to address this knowledge gap by synthesizing scientific evidence on the association between surgical nurse staffing characteristics and postoperative CC including death.

Approach: A systematic review was undertaken according to PRISMA criteria. Specific keywords related to nurse staffing characteristics (e.g. nurse staffing levels, levels of nurse education and experience, attributes of the work environment) and post-surgical complications were combined and searched on CINAHL, PsychInfo and Medline. Only quantitative studies based on a surgical population and published since 1995 were included. The methodological quality of retrieved studies was assessed using Joanna Briggs Institute's Checklists. A standardized data collection tool was conceived to systematically extract and synthesize relevant data from the retrieved studies. Given the important methodological heterogeneity across study, meta-analysis could not be done.

Results: 44 cross-sectional studies, mostly from North America and Europe were included. While 42 studies had mortality as the outcome (variously defined as in-hospital mortality (n=17), 30-day mortality (n=19) or failure to rescue [i.e., death following potentially preventable hospital-acquired complications] (n=25)), only 10 studies (22.7%) were interested in CC (mostly operationalized as a composite of different CCs) (n=9). Evidence showed that improved nurse staffing levels (n=16/33, 48.5%), higher levels of nurse educational preparation at the baccalaureate degree (n=9/15, 60.0%) and greater work experience (n=8/8 100%) are related to reduced in-hospital and 30-day mortality. Interestingly, failure-to-rescue appears especially sensitive to nurse staffing (n=14/22, 63.6%), nurse education (n=6/9, 66.7%) and work environment characteristics (n=5/6, 83.3%) Mixed results have been observed for association between nurse staffing and CC.

Conclusion: There is cross-sectional evidence that better nurse staffing is associated with lower mortality and failure to rescue rates among surgical patients. Longitudinal studies are required to better ascertain these associations and to identify safe staffing practices and thresholds. Evidence regarding specific CC is more limited, which warrants further investigation.

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ID: 235

Author: Ashley Buckle

Title: A Qualitative Approach to Nursing Staff Shortages in Nova Scotia's Rural Emergency Departments

Type of Abstract: Poster Presentation

Background and Objectives: In Nova Scotia, rural residents experience barriers to access healthcare due to unplanned temporary emergency department (ED) closures. Nursing shortages are a persistent and complex reason behind closures underrepresented in research studies in this setting. This study aims to understand how ED managers experience a nursing shortage in the context of rural ED closures. Insights into the nursing shortage gained through this study can guide health human resource planning, and help build resilient EDs.

Approach: This is a qualitative study using descriptive phenomenology. The approach seeks to bring meaning to the phenomena of nursing shortages by rigorously examining its presentation in the lived experiences of the participants. In the study, researcher bias is suspended through a reflective process. Approximately 8-10 managers from rural EDs in Nova Scotia are expected to participate. Data will be collected through 1hr semi-structured online interviews with each participant. Interviews will be analyzed using the 7-step Smith-Colazzi-Keen method. Research participants will also be asked to co-generate recommendations with the research team based on study findings.

Results: This study is currently in the data collection phase, and results are expected by May 1st. It is expected that ED managers will have some shared experiences with nursing shortages in the study context and will be able to give detailed accounts of their experience. Due to the unbiased stance assumed by the researcher and the analysis method used, it is difficult to anticipate more detailed study results.

Conclusion: Findings from this study along with the recommendations co-generated by participants will be shared with decision-makers in the organization. It is expected that the results of this study will have implications for future rural ED staffing decisions and health human resource practices.

All Authors: Ashley Buckle, Daniel Marsh

ID: 516

Author: Leslie Anne Campbell

Title: Addressing complex challenges in child and adolescent mental health system transformation - Choosing realist evaluation to study the Choice and Partnership Approach

Type of Abstract: Poster Presentation

Background and Objectives: The creation of an accountable, patient- and recovery-centred model of child and adolescent mental health care is a leading priority for health system transformation in Nova Scotia. The implementation and evaluation of the transformational Choice and Partnership Approach (CAPA) model is challenged both by key differences in context between sites and by the complex adaptive nature of health systems. Traditional research methodologies may oversimplify evidence and exclude contextual considerations, hindering generalization and interpretation of findings.

Approach: Using an integrated knowledge translation approach, we identified relevant stakeholder groups including patients, families, clinicians, managers, policy makers, administrators, and health service researchers. Stakeholders were consulted through project incubators to identify knowledge users and to identify key outcomes and policy and planning information needs. Together we drafted initial research questions and further engaged stakeholders through various means of consultation to refine the research questions, inform the research approach, identify data sources and initial outcomes of interest, and to plan analyses. Consensus-based discussions were held during which several methodological approaches were compared to stakeholder needs, research priorities, and anticipated challenges.

Results: Realist evaluation was identified as the research methodology most congruent with stakeholder-identified needs and the context-dependent complex health system research questions. Realist evaluation is a theory-driven approach to understanding 'what works, for whom, under what circumstances, and how' for health and social services. Based on understandings of causal outcomes as following from mechanisms that act within contexts, realist evaluation explicitly captures the complexity of health systems and diverse stakeholder perspectives and interests. Context-mechanism-outcome (CMO) configurations will be used as the main structure for framing theories to identify, test, refine, and explain (in)consistencies in the implementation of CAPA. The results will shed light on the extent a transformational model of mental health care can be scaled up or transferred to other jurisdictions or priority areas.

Conclusion: Health system transformation is complex, involving various components, targets, behaviours, and outcomes. Changes in context may contribute to unexpected changes to the system, resulting in unanticipated variation in outcomes. Realist evaluation explicitly considers context, and as such, it is particularly well suited for informing policy development and health system planning.

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ID: 28

Author: Beatrice Choremis

Title: The uptake of the pharmacy-dispensed naloxone kit program in Ontario: a population-based study

Type of Abstract: Poster Presentation

Background and Objectives: Naloxone is a life-saving antidote for opioid overdoses. In June 2016, the Ontario government implemented the Ontario Naloxone Program for Pharmacies (ONPP) to enhance access to naloxone. We examined the initial uptake of naloxone through the ONPP and characteristics of the individuals receiving and pharmacies dispensing naloxone kits.

Approach: We conducted a population-based study of all Ontario residents who received a naloxone kit between July 1, 2016 and March 31, 2018. This involved 1) a cross-sectional analysis of monthly rates of kits dispensed; and 2) a descriptive analysis of all individuals and pharmacies who accessed and dispensed naloxone, respectively. We stratified individuals according to their opioid exposure as: prescription opioid agonist therapy (OAT) recipients, prescription opioid recipients, those with past opioid exposure and those with no/unknown opioid exposure.

Results: Naloxone dispensing through the ONPP increased considerably from 1.9 to 54.3 kits per 100,000 residents over the study period. In this time, 2,729 community pharmacies dispensed 91,069 kits to 67,910 unique individuals. Uptake was highest among prescription OAT recipients (40.7% of individuals dispensed at least one kit), compared with 1.6% of prescription opioid recipients, 1.0% of those with past opioid exposure and 0.3% with no/unknown opioid exposure. Naloxone dispensing was highly clustered among pharmacies, with 55.6% of Ontario pharmacies dispensing naloxone, and one-third (33.7%) of kits dispensed by the top 1.0% of naloxone-dispensing pharmacies.

Conclusion: Overall, the ONPP launch led to a rapid increase in the number of naloxone kits dispensed in Ontario. Although the program successfully engaged people who take OAT, efforts to increase uptake among others at risk of opioid overdose appear warranted. Opportunities for expanding pharmacy participation should be identified and pursued.

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ID: 114

Author: Élisabeth Côté-Boileau

Title: Organizational ethnographic case studies in healthcare: are we tacking the right turn to methodological development in qualitative research?

Type of Abstract: Poster Presentation

Background and Objectives: New forms of organizational ethnographies are attracting increased interest in healthcare research, such as focussed ethnography, inter-organizational ethnography, multi-sites ethnography, and rapid ethnography. These are often applied in combination with case study designs. However, the methodological argument that supports why and when this combined methodology has greater potential, is currently underdeveloped. We explored the methodological potentialities and limitations induced by combining organizational ethnography and case study designs to conduct in-depth empirical research in healthcare.

Approach: We conducted a four-phase scoping review based on the framework of Arksey & O'Malley (2005). First, we identified our research question as: "what are the potentialities and limitations of organizational ethnographic case studies used in healthcare research?". Secondly, we scoped relevant papers through seven electronic databases (MEDLINE, Academy Search Complete, Buisness Source Complete, CINAHL, PsycINFO, SocINDEX and ERIC) from July to September 2018. Thirdly, we selected revelant papers through a two-processes screening: we first screened each article by title and abstract, and then by full-text. Finally, we extracted data and summarized and reported our results.

Results: We included 24 peer-reviewed articles published from 1979 to 2018. A thematic analysis revealed that methodological potentialities and limitations of organizational ethnographic case studies applied to healthcare contexts are generally distributed among nine characteristics: 1) multiplicity of data, 2) depth and plurality of cases, units of analysis, perspectives and contexts, 3) skills, 4) credibility, 5) feasibility, 6) researcher's role, 7) theoretical development, 8) generalization of results, and 9) ethical considerations. We argue that combining these two methodologies offers more methodological power when the research question: 1) is exploratory, 2) targets a specific organizational or social phenomenon that can only be explored through human experiences in various empirical contexts, and 3) can not be validly answered without considering the researcher's reflexivity.

Conclusion: Combining organizational ethnography and case study appears as an improved methodology to grasp the complexity and richness of organizational actors' experience in healthcare contexts. Further methodological developments could consider the reflexivity of research participants, to empower the role of organizational and policy actors in producing knowledge for health system improvement.

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ID: 248

Author: Denise Cullen

Title: Using ICD-10-CA/CCI: What Every Analyst Needs to Know

Type of Abstract: Poster Presentation

Background and Objectives: To advance health care research, policy development, and decision-making, coded diagnostic and procedural data from the Discharge Abstract Database (DAD) and the National Ambulatory Care Reporting System (NACRS) are frequently used. Understanding how this data is collected and coded is critical to data analysis. However, there has historically been minimal support for researchers and analysts using data coded with Canadian classifications (ICD-10-CA and CCI). This poster presents an innovative course aimed at bridging this gap.

Approach: CIHI developed and maintains the ICD-10-CA and CCI classifications, and supports clients on extraction and interpretation of the related coded data. Drawing on extensive experience in client support for the use of coded data in health system analysis and performance reporting, as well as practical insights from hospital-based coding of data, a course was developed focusing on DAD/NACRS. The course encompasses the classifications underlying diagnoses (ICD-10-CA) and procedures (CCI), the Canadian Coding Standards that drive how data is coded, and an understanding of the relationship to various other DAD/NACRS data elements. The approach is online, interactive and user-centric.

Results: Using ICD-10-CA/CCI: What Every Analyst Needs to Know, released in April 2018, provides the researcher and analyst with an understanding of coding and classifications, factors to consider in case selection and data extraction, and questions to ask to ensure the right data is pulled and interpreted accurately. Additional tools are provided to support analysis, as well as handbooks for each of the classifications. Preliminary assessment indicates that feedback from users has been exceedingly positive. This course and the various tools provided is anticipated to have a positive impact on analysis and reporting. Continual evaluation of the course will be conducted over the coming months.

Conclusion: Understanding of data input processes and the structure and history of classification use in Canada makes for robust use of ICD-10-CA/CCI coded data. The course, Using ICD-10-CA/CCI: What Every Analyst Needs to Know, provides the necessary information and tools to promote better data, better decisions, and subsequently healthier Canadians.

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ID: 284

Author: Genevieve David

Title: Evaluating patient partnership within the Quebec's SPOR Support Unit governance

Type of Abstract: Poster Presentation

Background and Objectives: BACKGROUND Quebec SPOR SUPPORT Unit aims to build a sustainable research support infrastructure for patient-oriented research (POR) across the province through its Strategy on Partnership with Patients and the Public (SPPP), in collaboration with the four University Networks (McGill, Montréal, Sherbrooke and Laval Universities), each co-led by a patient-researcher tandem. One of the SPPP's objectives is to support patient and public partnership science through evaluation and continuous improvement of patient partnership methods.

Approach: METHODS The main objectives of the SPPP evaluation are to: (1) monitor and understand engagement practices; (2) assess the experience of partners; and (3) understand factors that influence perceived partnership success. Using a concurrent triangulation mixed-methods design, data will include document review, surveys and semi-structured interviews.

Results: RESULTS Preliminary results from each phase will be reported to Quebec SPOR SUPPORT Unit levels to adjust and adapt the support given to research teams. Data will be reported back by a face to face workshop during which SPPP and IUHN members, including patient partners, will have the opportunity to share comments and discuss recommendations on how to best use evaluation results. Results regarding the patient partnership at the governance level will be presented.

Conclusion: CONCLUSION The results of this evaluation will aim to continuously improve partnership support tools and partnership processes that are developed by the SPPP. In addition, the evaluation results communicated to the higher levels of governance within the Quebec SPOR SUPPORT Unit will help improve patient partnership practice across all levels

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ID: 200

Author: Eric De Prophetis

Title: The Relationship Between Life Satisfaction and Ambulatory Care Sensitive Conditions

Type of Abstract: Poster Presentation

Background and Objectives: Life satisfaction (LS) and other measures related to happiness have been shown to be inversely related to negative health outcomes such as morbidity and mortality. Ambulatory care sensitive conditions (ACSC) are conditions for which timely and effective outpatient care can prevent acute episodes. Therefore, this research project aims to test the hypothesis that poor life satisfaction is associated with an increased risk of preventable hospitalizations.

Approach: A prospective population-based cohort study of adult Ontario participants pooled across five cycles (2003- 2012) of the Canadian Community Health Survey (CCHS). Data was then linked to health administrative data held at the Institute for Clinical and Evaluative Sciences.

Estimations of weighted distributions of demographic, socioeconomic, health status and behaviour characteristics according to ACSCs and life satisfaction were calculated. Cox proportional hazards models associated with baseline life satisfaction were used to calculate the risk of hospitalizations for ambulatory care sensitive conditions. Joint effects models were used to test to see if this relationship varied by socioeconomic status (SES).

Results: After combining cycles of the CCHS and linking to administrative databases, it was determined that 3,037 individuals had an event within the study timeframe. Men, the elderly and those with lower household income were more likely to be hospitalized with an ACSC.

After controlling for age, sex, SES, and lifestyle factors (i.e. smoking status) poor LS had a strong adjusted relationship with hospitalizations for ACSCs (HR = 2.42, $p < 0.001$). Furthermore, the joint effect of individuals who had the lowest levels of LS and household income were at an increased risk of being hospitalized for an ACSC (HR = 3.8, $p < 0.001$).

Conclusion: This study demonstrates that poor LS is associated with hospitalizations for ACSCs and that this relationship is experienced more severely for those who are more socioeconomically disadvantaged. Therefore, initiatives that improve life satisfaction may be effective at reducing the burden of preventable hospitalizations.

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Author: Julien Dery

Title: Patient prioritization tools and their effectiveness in non-emergency healthcare services: A systematic review

Type of Abstract: Poster Presentation

Background and Objectives: Waiting lists should be managed as fairly as possible to ensure that patients with greater or more urgent needs receive services first. Patient prioritization refers to the process of ranking referrals in a certain order based on various criteria with the aim of improving fairness and equity in the delivery of care. Despite the widespread use of patient prioritization tools (PPTs) in healthcare services, the existing literature has mainly focused on effectiveness in emergency settings.

Approach: This review aims to perform a systematic synthesis of published evidence concerning: 1) prioritization tools' characteristics 2) their metrological properties and 3) their effect measures across non-emergency services. Five electronic databases are searched (Cochrane Library, Ovid/MEDLINE, Embase, Web of Science and CINAHL). Data are sought to report tool's format, description, population, setting, purpose, criteria, developer, metrological properties and outcome measures. Two reviewers double check studies eligibility and data relevance. Data are synthesized with sequential exploratory design method. We use the Mixed Methods Appraisal Tool (MMAT) to assess the quality of articles included in the review.

Results: A total of 20 008 references were found through databases search. Once duplicates removed, we screen title/abstract of 11 668 references according to eligibility criteria to finally select 26 articles to include in the review. Second screening process of referenced citations of eligible articles is underway. A preliminary analysis of results shows that PPTs are used across a variety of populations and settings. PPTs can include sets of criteria based on clinical, functional or social factors to define patients' needs. Outcome measures of PPTs are broad, from qualitative stakeholders' perceptions about the tool to quantitative efficiency, validity and reliability of the tool.

Conclusion: This systematic review will provide much needed knowledge regarding patient prioritization tools. The results will benefit clinicians, decision-makers and researchers by giving them a better understanding of the methods used to prioritize patients in clinical settings.

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ID: 178

Author: Richard Fleet

Title: Rural emergency care 360°: mobilizing healthcare professionals, decision-makers, patients and citizens to improve rural emergency care in the province of Quebec, Canada

Type of Abstract: Poster Presentation

Background and Objectives: Emergency departments (EDs) represent an important safety net for rural populations in Canada. In the present context of growing needs and limited resources, policy-makers need evidence to inform their choices about allocation of emergency care and services in remote areas. We present preliminary data from a large ongoing study that used innovative methods to mobilize patients, citizens and other stakeholders to describe rural emergency care in Quebec and engage in its improvement.

Approach: A participatory, mixed-methods approach was adopted and the protocol was published (BMJ Open) for this study of all rural EDs in Quebec (N=26). Various stakeholders (decisions-makers, healthcare professionals, patients and citizens) participated in semi-structured interviews about challenges and solutions for improving care and services. Transcripts were analyzed thematically. A statistical analysis of data on EDs (resources, visits, transfer, etc.) was also conducted.

An expert panel will prioritize the solutions that emerged and propose implementation strategies. A touring conference is planned to disseminate results and foster mobilization. Questionnaires will be developed to evaluate the impact of knowledge transfer on EDs actors.

Results: Rural EDs treat more than 300,000 patients/year, with 20% of their cases of high acuity. Approximately 3.5% of cases were transferred to urban centres, which for most EDs (60%) were more than 150 km away. Forty percent of rural EDs did not have access to a CT scan, 31% had no access to a surgeon and 38% had no ICU.

A total of 185 persons participated in the interviews. Ongoing thematic analysis confirms that rural EDs face challenges primarily related to recruitment and retention, medical transfers, and access to specialties. Solutions proposed include administrative autonomy, expanded practice and technological solutions.

The expert panel will meet this winter to produce a comprehensive list of solutions and resources tailor-made for Quebec's rural EDs.

Conclusion: This is the first study in rural Canada to involve multiple stakeholders and patients in locally relevant and sustainable improvements to emergency care. This research experience, involving large-scale mobilization, could serve as a model for improving performance in all areas of our health and social care system.

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Author: Guillaume Fontaine

Title: Rationale, mechanisms of action, and behaviour change techniques of the E_MOTIV intervention: A web-based, adaptive e-learning environment to support the implementation of behaviour change counseling in nurses' practice

Type of Abstract: Poster Presentation

Background and Objectives: Cardiometabolic risk factors, such as smoking, contribute to the rise of chronic diseases and poor quality of life. Guidelines recommend routine delivery of behavior change counseling (BCC) to patients hospitalized for problems related to health behaviors. However, studies underline limited implementation of BCC in acute care nurses' practice. This study aimed to develop the theory underlining the E_MOTIV intervention, a web-based, adaptive e-learning environment to support the implementation of BCC in acute care nurses' practice.

Approach: We used Sidani and Braden's approach to develop the E_MOTIV intervention theory. This approach includes describing intervention rationale (i.e., the problem) and proposing mechanisms of action (MoAs) and strategies (i.e., behavior change techniques [BCTs]). To describe the rationale, we retained the Reasoned Action Approach (Fishbein, 2010) and Cognitive Load Theory (Young, 2014). We then used Michie's Theory and Technique Tool (2018) to select MoAs, and link them to BCTs that were thought to influence nurses' intention and behavior. We selected the dose, mode of delivery, and outcomes of the E_MOTIV intervention based on a systematic-review and meta-analysis (Fontaine, 2017).

Results: Constructs of the Reasoned Action Approach were linked to 10 MoAs described by Michie: intention, knowledge, skill, environmental context and resources, attitude towards the behavior, beliefs about consequences, emotion, subjective norm, social influences, and beliefs about capabilities. These MoAs included for evaluation were then linked to 35 potential BCTs that either had a statistically significant effect in changing targeted MoAs, or that were considered effective in doing so by expert consensus. A total of 16 BCTs were included in the E_MOTIV intervention theory after we considered their appropriateness in improving the implementation of BCC in nurses' clinical practice using the APEASE criteria. Three techno-pedagogical design principles derived from Cognitive Load Theory were used to develop the adaptive e-learning environment.

Conclusion: Sidani and Braden's approach provided a systematic method for developing the intervention theory. The Reasoned Action Approach, Cognitive Load Theory, and tools from Michie facilitated the description of intervention rationale, and the identification of MoAs, BCTs, and techno-pedagogical design principles. Further research will test the effectiveness of the E_MOTIV intervention.

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ID: 488

Author: Eliot Frymire

Title: Who really has a primary care provider in Ontario? Understanding attachment and unattachment

Type of Abstract: Poster Presentation

Background and Objectives: Patients who are not attached to a primary care provider are less likely to receive recommended preventive or chronic disease care and have higher health care utilization. It is unclear however how ongoing health care reform has impacted the proportion and make up of patients who are unattached within primary care. Our objective was to develop an approach to characterizing attachment with the goal of better understanding the unattached patient in primary care in Ontario.

Approach: We used linked administrative and survey data to construct definitions of attachment. We looked at self-reported levels of attachment based on patient survey data from the Health Care Experience Survey(HCES), and matched these survey responses to health administration measures(health databases) of being rostered to a family physician/team or being virtually rostered(VR) to a primary care provider(most frequent provider billed). We derived 3 categories of attachment using these two sources of data: 1. Attached, 2. Unattached and 3. Uncertainly attached. Further refinements will involve reporting on physician and patient characteristics such as continuity of care, and measures of health care.

Results: Attached patients (91.8%) and unattached patients (1.3%) were those for whom there was concordance between their attachment status in both the self-report and administrative data. Uncertainly attached patients (6.8%) were those whose responses were discordant. There were two types of uncertainty, those who self reported they had a primary care provider, but with no record of either being assigned or of attending regularly to a provider(3.0%) and those who were rostered or VR to a primary care provider, but did not feel they were attached based on self report(3.8%). For these 3 categories we included adjustments for sex, age, rurality, income, geography and co-morbidity.

Conclusion: By deriving archetypes for attached, unattached and uncertainly attached patients, we can better understand nuances of attachment that need to be considered when developing health policy for access and equity.

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ID: 150

Author: Justin Gagnon

Title: Policies Affecting the Implementation of Electronic Medical Records in Quebec Primary Care

Type of Abstract: Poster Presentation

Background and Objectives: Health system administrators worldwide are implementing electronic medical records (EMR) to improve the quality and efficiency of health care delivery. Primary care EMR adoption rates in Quebec are among the lowest compared to the rest of Canada. Little research has sought to understand, from a historical perspective, the policy decisions surrounding EMR implementation. This research aims to understand the policy decisions and actions surrounding the implementation of EMRs in Quebec Primary Care.

Approach: An interpretive qualitative case study design is used. This research involves two consecutive phases. In Phase 1, data from Quebec policy documents and reports (1991-2018) will be exhaustively retrieved and analyzed to develop a narrative that encompasses policy actors, decisions, actions and events related to the implementation of EMR in Quebec primary care over the last three decades. In Phase II, results from Phase I will be triangulated with data from semi-structured interviews with key policy-decision makers over the period considered and inductively analyzed with the aim of further understanding the rationale behind their policy decisions.

Results: Initial results on the processes, events and policy decisions surrounding the implementation of EMRs in Quebec primary care will be presented and discussed.

Conclusion: The knowledge gained from this research on policy decisions and the culture of policy decision making in Quebec could help improve EMR implementation in Quebec and may be useful in improving the success of future health policy initiatives.

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ID: 205

Author: Natasha Gallant

Title: The influence of personality factors on intentions to use a computer vision system to automatically detect and monitor pain behaviour in long-term care residents

Type of Abstract: Poster Presentation

Background and Objectives: To address the lack of systematic pain assessment in long-term care (LTC) facilities, we are developing a computer vision system designed to automatically detect and monitor nonverbal pain behaviours in residents with severe dementia and limited ability to communicate. This study is aimed toward a better understanding of the factors influencing the likelihood of adoption of advanced technologies in LTC by examining the relationship of personality factors with intentions to use this system.

Approach: The Unified Theory of Acceptance and Use of Technology (UTAUT) proposes that intentions to use technology are influenced by performance expectancy, effort expectancy, social influence, and facilitative conditions. The influence of personality factors within the UTAUT has yet to be examined in LTC settings. Thus, nurses working in LTC facilities completed questionnaires measuring UTAUT constructs as well as personality factors (i.e., readiness for organizational change, technology readiness, five-factor model, locus of control). Statistical analyses involved multiple regressions testing whether personality factors explain variance in intentions to use the system independent of variables posited by the UTAUT model.

Results: One hundred and twenty LTC nurses completed the set of questionnaires. On average, nurses were 39.60 (SD = 11.831) years of age and worked in LTC for 10.70 (SD = 10.358) years. The full model comprising of UTAUT predictors accounted for a significant amount of variance in intentions to use the system, $F(4, 115) = 18.712$, $p < .001$, $R^2 = .394$. Furthermore, readiness for organizational change, $F(5, 110) = 3.658$, $p = .004$, $R^2 \text{ Change} = .086$, consolidated framework for implementation research, $F(5, 110) = 2.408$, $p = .041$, $R^2 \text{ Change} = .060$, and locus of control, $F(3, 111) = 3.863$, $p = .011$, $R^2 \text{ Change} = .057$, scores predicted intentions to use the system independent of the contribution made by UTAUT predictors.

Conclusion: Findings from this study will be used to develop an intervention to maximize the probability of the successful implementation of advanced healthcare technologies in LTC facilities. Thus, targets for intervention could include nurses' readiness for change and locus of control.

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Author: Rebecca Ganann

Title: Out-of-Pocket costs of aging-in-place for older people with frailty: A stakeholder-engaged scoping review

Type of Abstract: Poster Presentation

Background and Objectives: Older people with frailty often prefer to age-in-place, to remain in their homes and communities as they age. Supporting older people in the community has cost benefits for healthcare spending, however, often significant costs are incurred by individuals and families to enable aging-in-place. Understanding these costs can inform healthcare practice and policy as well as older adults as they plan and make decisions about where to live.

Approach: A systematic scoping review, following Joanna Briggs Institute methodology, is being conducted to understand out-of-pocket expenses incurred by frail older adults living at home and by their family and friend caregivers. The review aims to synthesize a range of evidence including research studies and grey literature reports. Relevant references since 2001 describing the resources, supports and costs for enabling older people with frailty to live in the community will be included. In line with principles of patient and public engagement, academic researchers have partnered with stakeholders such as policymakers, older adult patients, and caregivers throughout review planning and implementation.

Results: A comprehensive search of published literature databases (MEDLINE, CINAHL, EMBASE) and several grey literature databases resulted in 9089 citations. Titles and abstracts were reviewed by two reviewers; full-text relevance screening of 590 citations is underway. Screening, data extraction and synthesis will be completed in Spring 2019. Stakeholders actively engaged in research team meetings, contributed to study design and decision making, and will be involved in interpretation of findings and dissemination. Review findings will categorize the financial needs of older people to remain in their homes as they face health and functional changes and summarize geographic and methodological characteristics of the literature. This study will support optimizing healthcare spending, and decision making by older people with frailty and their caregivers about proactively planning for aging-in-place.

Conclusion: This scoping review extends our understanding of the state of knowledge of economic costs incurred by older adults in the community and their caregivers. Collaborative relationships between the research team and diverse stakeholders supports potential for real-world impact and integration of findings in practice and policy to support aging-in-place.

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ID: 350

Author: Stephanie Garies

Title: Using primary care EMR data for hypertension research and surveillance: a data quality report

Type of Abstract: Poster Presentation

Background and Objectives: Data from primary care electronic medical records (EMR) are being used routinely for research, surveillance and clinical improvement; however, they first must be assessed within the context of the intended secondary purpose. Without considering the underlying quality, conclusions may be biased or misinterpreted, subsequently impacting clinical care, policy decisions or research findings. The objective is to describe primary care EMR data quality in Alberta, within the context of hypertension research and surveillance.

Approach: EMR data extracted by two Alberta primary care research networks contributing to the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) will be used. Data include patient sociodemographics, diagnoses, prescribed medications, physical measurements (i.e. blood pressure, height, weight), risk factors, laboratory results. Using a published framework for reporting data quality in distributed networks, four areas will be described: 1) original data capture; 2) data extraction, processing and transformation; 3) data element characterization (i.e. descriptive statistics, distributions/proportions, data format); 4) context-specific characterization of key variables related to hypertension surveillance and research (i.e. cohort identification, time intervals between blood pressure measurements).

Results: Results are in progress and will be presented in full during the CAHSPR conference. The EMR data for 50,342 adults with hypertension in Alberta who had at least 1 primary care encounter in a two-year period (July 2016-June 2018) have been identified for this analysis. The process of transforming the raw EMR data to standardized, processed CPCSSN data in Alberta will be summarized. Data completeness and potential data errors are expected to vary according to healthcare utilization, severity of illness, EMR system and type of EMR data entry field (i.e. structured/unstructured). Preliminary assessment of external validity using comparisons with other data sources suggests similar hypertension prevalence as detected in administrative data and physical measures surveys, but higher estimates than self-report surveys.

Conclusion: These findings will provide insight into the quality of CPCSSN EMR data for secondary uses related to hypertension research/surveillance and will inform strategies for improving data quality. Reproducible methods will be used in order to facilitate replication of data quality reports at other CPCSSN networks across the country.

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ID: 176

Author: Claire Godard-Sebillotte

Title: Development of two hierarchical algorithms identifying the 65+ community-dwelling population in the provincial administrative database in Quebec

Type of Abstract: Poster Presentation

Background and Objectives: Persons 65+ account for nearly 40% of hospitalized adults and 50% of hospitalizations' costs, while forming only 15% of the population. Service use patterns differ between community-dwelling and institutionalized older persons. Studying health service use requires differentiating these sub-populations. In the Quebec (Qc) health administrative database, no differentiation existed. Our aim was to develop two algorithms to differentiate the community-dwelling and the institutionalized 65+ populations using the Qc health administrative database.

Approach: Iterative process involving repeated exchanges with key stakeholders. Key stakeholders were researchers and data analysts knowledgeable about provincial health administrative databases, researchers and managers knowledgeable about Qc long-term care (LTC) and support services offerings, and clinicians. The Qc Integrated Chronic Disease Surveillance System was used to develop the algorithms. It is a linkage of five health administrative databases: health insurance registry, hospitalizations, physician claims, drug services and mortality. This system covers 99% of the older population of Quebec.

Results: Two hierarchical algorithms were developed. The first one aimed at identifying persons 65+ admitted to LTC facilities (collective dwellings with 24/7 nursing care). Persons were identified if they met at least one of three criteria: 1) being classified as institutionalized in the drug services database, 2) being admitted to or discharged from the hospital from a LTC facility, 3) receiving a service billed by a physician in a LTC facility. The second algorithm had one additional criterion and aimed at identifying the community-dwelling population (i.e. the persons currently living at home). This population was identified as neither having been admitted to a LTC facility, nor being waiting for LTC admission in an acute care hospital; also known as being in alternate level of care.

Conclusion: Differentiation of community-dwelling and institutionalized older persons in Qc administrative health database is critical to studying health service use and to enable cross provincial comparisons. Further research will be needed to validate these algorithms.

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ID: 511

Author: Rachel Goren

Title: Developing the Patient and Public Involvement Questionnaire (PPIQ): Progress to date and next steps

Type of Abstract: Poster Presentation

Background and Objectives: Background: The Patient and Public Involvement Questionnaire (PPIQ) was developed to measure board dynamics including public and patient involvement in the area of resource allocation decisions in drug reimbursement. Items were derived from interview data and augmented by a literature review. The PPIQ was reviewed extensively with our knowledge user partner (the Canadian Agency for Drugs and Technologies in Health, CADTH), refined using focus group feedback sessions, and assessed for sensibility using Feinstein's components.

Approach: Approach: As a final step in the development of the PPIQ, we will be conducting validity testing with members of drug reimbursement committees across Canada. Preliminary results from the validity testing will be presented, in conjunction with a summary of findings from the PPIQ development process. Moreover, using knowledge translation guidelines (KT), such as assessing potential impact and transferability, this poster will aim to outline the steps taken to disseminate findings from our research.

Results: Results: Validity testing is ongoing, preliminary results will be presented. Specific activities, within the broader KT plan will also be discussed in detail. These knowledge translation activities are the creation of a user centred website, and an informational video series on patient and public engagement. Results will focus on the development of these KT materials and their utility in the implementation and uptake of the PPIQ.

Conclusion: Conclusions: Results from validity testing and KT plan for the PPIQ will be presented. Findings to date support the use of the PPIQ to identify the extent to which committees are meeting the criteria of patient and public involvement by international drug recommendations bodies and other health technology

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ID: 221

Author: Sara Guilcher

Title: Patient and caregiver experiences on care transitions for adults with a hip fracture: A scoping review

Type of Abstract: Poster Presentation

Background and Objectives: Individuals with hip fracture injuries frequently experience multiple care transitions as they require treatment from a diverse range of professionals across multiple settings. Inadequately managed care transitions can lead to hospital readmissions and poor patient outcomes. The purpose of this scoping review was to explore what is known in the literature about the experiences, perspectives, and attitudes of patients with hip fracture and their caregivers during a care transition.

Approach: Keywords were used to search seven electronic databases and grey literature for articles published between January 1, 2000 and July 3, 2018. The following keywords were combined using Boolean operators, truncators, wild cards, and proximity operators: hip fracture, care continuum, transitional care, patient transfer, care transitions. The reference lists of included studies and review articles were also searched. The search yielded 1107 articles after the removal of duplicates. Two reviewers independently screened titles and abstracts and identified 140 articles that met the inclusion criteria for full-text review. Eleven studies met the inclusion criteria and data was charted using Microsoft Excel.

Results: Based on the findings from this review, the most commonly reported challenges that patients and caregivers encountered during care transitions were: (1) lack of information sharing; (2) role confusion; and (3) disorganized discharge planning. The most commonly reported suggestions in the literature to improve care transitions were: (1) increasing written communication; (2) offering a patient representative role; (3) using technology for knowledge dissemination; and (4) increasing geriatrician involvement. The research gaps identified in this scoping review include the limited number of studies exploring the lived experiences of patients with hip fracture and their caregivers during care transition, as well as inconsistencies in reporting sociodemographic and clinical characteristics of the study populations.

Conclusion: This scoping review identified that the experiences of caregivers and patients with hip fracture during transitions in care have not been widely studied. This review provides a foundation to guide future research, policies and practices that improve care transitions for patients with hip fracture and their caregivers.

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ID: 232

Author: Sara Guilcher

Title: Patient and caregiver experience with delayed discharge from a hospital setting: A scoping review

Type of Abstract: Poster Presentation

Background and Objectives: Delayed hospital discharge is a common health systems quality and safety concern, and results in reduced levels of treatment, placing patients at risk of functional decline, falls and hospital-related adverse events. Caregivers often take on an active role in hospital to mitigate the effects of reduced clinical care. This scoping review aimed to summarize the literature on patient and caregiver experiences with delayed hospital discharge.

Approach: Seven electronic databases and grey literature were searched for articles published in the past 20 years. Keyword searches were conducted using the appropriate Boolean operators, wild cards, proximity operators and truncations for combinations of the following words: delayed discharge, alternate level of care, patients, caregivers, experiences, perspectives, perceptions, satisfaction, expectations and attitude. The reference lists of included studies and review articles were also searched. The search yielded 4,725 articles after deduplication. Fifty-nine articles met the criteria for full text review and seven articles were ultimately included in this scoping review. Data were extracted and charted using Microsoft Excel.

Results: Most articles focused on patient experiences, with only two reporting both patient and caregiver experiences. Less than half of the articles reported patient living arrangements pre-hospitalization; however, all reported the planned destination post-hospitalization, which was almost always assisted-living or long-term care facilities. Few articles reported participant demographic data other than age and sex. Five themes were prevalent: 1) overall uncertainty (e.g. about diagnoses, hospital and placement processes, what questions to ask and who to ask); 2) mental and physical stagnation; 3) lack of engagement in decision-making; 4) initial surprise followed by resignation towards the situation; and 5) impact of hospital staff and physical environment on overall experience. Gaps identified included limited patient and caregiver context (e.g. sociodemographics), few longitudinal studies and small participant numbers.

Conclusion: Studies on the experiences of patients and caregivers during delayed hospital discharge are limited. This review provides a foundation to guide future research, policies and practices to improve patient and caregiver experiences with delayed hospital discharge, including enhanced communication with patients and families and programs to reduce deconditioning.

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ID: 445

Author: Jonathan Harris

Title: Health System Decision-Makers' Unanswered Policy Questions About Health Technologies

Type of Abstract: Poster Presentation

Background and Objectives: Health technology assessment (HTA) is an essential tool to support evidence-informed health policy-making. However, an acknowledged gap exists in translating HTA results into policy and practice. HTA producers are increasingly recognizing this gap and taking steps to enhance the policy relevance of their work by looking at factors beyond clinical and cost-effectiveness. One such initiative is the recent launch of a policy consultation service by a Canadian HTA agency.

Approach: The policy consultation service allows health system decision-makers to request custom reviews and analysis on policy implementation related to health technology topics. Data drawn from requests to date will be used to draw insights on the issues health system decision-makers are grappling with as it relates to the use of new or existing health technologies, as well as what considerations often go unaddressed within traditional HTA approaches.

Results: Preliminary themes that have emerged from requests made to date include: access (both to new and emerging health technologies, and how new technologies might enhance system access); reassessment and policy or regulatory modernization; potential unforeseen consequences of adoption; learning from the experiences of other jurisdictions; scaling up local innovation; and sensitivity to local context. These themes point to areas where HTA producers, researchers, and policy professionals could focus their efforts to maximize impact. Further results will be available in time for the conference.

Conclusion: Policy analysis that is sensitive to the local context and considers key enablers or barriers to action is complimentary to HTA in supporting evidence-informed health policy decision-making. System decision-makers are seeking high quality evidence to inform decisions, but are also seeking analysis that helps to contextualize this evidence.

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Author: Heather Higgins

Title: Impact of a Provincial Pediatric Insulin Pump Program on Type 1 Diabetes Health Outcomes: A Population Based Cohort Analysis

Type of Abstract: Poster Presentation

Background and Objectives: A number of provincial government programs fund insulin pump devices for patients with type 1 diabetes (T1D), each with different eligibility and age criteria. Current evaluations of Canadian pediatric insulin pump programs are limited, and there is yet no study on the transition experience into adulthood. This study will provide the first comprehensive evaluation of the New Brunswick-Pediatric Insulin Pump Program (NB-PIPP) and provide a baseline of evidence on program equity and effectiveness.

Approach: Analyses will use a longitudinal population-based cohort design, using several linked administrative health data sets from 2012/13 to 2015/16. The population will include all children and adolescents with diagnosed T1D in New Brunswick (N≈ 300). Logistic regression will be used to assess the risk of hospitalization for those who are in the NB-PIPP compared to those who are not in the NB-PIPP, as well as the risk for hospitalization for participants in the NB-PIPP as they transition out of the program.

Results: Results will provide insight on the participation of those in the NB-PIPP, and whether participation influences risk of hospitalization among pediatric T1D patients in New Brunswick. This binary outcome will reveal whether individuals were hospitalized over a three-year follow-up period. All hospital stays for acute and chronic complications of diabetes will be included. Results will be presented in terms of odds-ratios, using the Wald test to gauge the significance of each independent variable, with the level of confidence set at $p < 0.05$. Confidence intervals will be estimated at 95% using bootstrap replications. Descriptive statistics on demographic variables and areal socioeconomic measures will provide summaries about the population of T1D involved in the study.

Conclusion: Understanding how the NB-PIPP currently impacts health outcomes will inform stakeholders and contribute to evidence-based policy. This baseline of evidence will provide insight on continued financing of medical supplies into adulthood, as well as reducing hospitalizations and overall costs to the healthcare system.

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Author: Bernice (Man Ying) Ho

Title: Life Courses of Amerasians in Vietnam: A Qualitative Analysis of Emotional Well-Being

Type of Abstract: Poster Presentation

Background and Objectives: The Vietnam war left behind a legacy of mixed-race children known as Vietnamese Amerasians, who had difficulty integrating into their post-conflict societies. While studies have examined the social and psychological outcomes for Amerasians who immigrated to the U.S., knowledge on the long-term implications of being an Amerasian child and then adult in Vietnam is limited. Furthermore, studies often used quantitative mental-health screening instruments, which is systematically unable to capture their broader experiences.

Approach: To address the paucity of knowledge about life courses of Amerasians who remained in Vietnam, we used SenseMaker®, a mixed methods data collection tool, to interview adult Amerasians living in Vietnam and to subsequently identify where resources will be most beneficial and cost-effective. 26 narratives out of a larger (n=336) cross-sectional study, met the inclusion criteria of being first-person stories from Amerasians in Vietnam about “Emotions”. Only 16 were audible for translation, further line-by-line coding and qualitative analysis.

Results: The results indicate five universal themes amongst participants: Discrimination, Poverty, Identity, Importance of Family, and Perception of Circumstances. Experiences of discrimination were broad and sometimes systemic, affecting family life, the pursuit of education, and employment opportunities. Poverty was also an overarching theme and was perceived as a barrier to a better life, as a source of misery, and as a source of disempowerment. The resulting cycle of poverty, in which under-educated, resource-constrained Amerasians struggled to educate their own children, was evident. The negative emotional impact of not knowing one’s biological roots was also significant. Although there was a decrease in perceived stigma over time and some Amerasians were satisfied with their current lives, years of experiencing discrimination undoubtedly negatively impacted emotional well-being.

Conclusion: The results from this study highlight a need for community programs to address the stigmatization and discrimination associated with Vietnamese Amerasians as well as call for support in facilitating international searches for their biological fathers.

All Authors: Bernice (Man Ying) Ho

ID: 469

Author: Margaret Holland

Title: Characteristics of Hospitalizations for Children and Youth in Canada with Complex Care Needs: A Population-Based Study

Type of Abstract: Poster Presentation

Background and Objectives: There is a lack of information on healthcare utilization amongst children and youth in Canada with complex care needs (CCN). An accurate portrait of this population is needed to set targets and inform service delivery improvements. The objectives of this study are to estimate and describe this population. This study will provide stakeholders with data around high system users to inform program development that can both improve health outcomes and reduce costs.

Approach: This population-based study employed confidential data from the 2006 Canadian Census Masterfiles and 2006/7, 2007/8, and 2008/9 Discharge Abstract Database (DAD). The Census provides rich socio-demographic data and the DAD provides data on acute hospitalization separations from all regions in Canada except for Quebec. Record linkages were based on probabilistic matching. The population of interest included children and youth aged 0 to 18 years. Multivariate logistic regressions with generalised estimating equations were used to adjust for characteristics of patients and hospital admissions. The main outcomes of interest were 30 day readmissions, length of stay, and cost of stay.

Results: This study is ongoing and will be completed by May 2019. Results will include the percentage of hospitalized children and youth both with and without CCN in Canada. These results will be further broken down by: 1) impairment (e.g. neurological impairment, technological assistive device, single organ impairment, multi-organ impairment) and 2) socio-economic status (e.g. income, family composition, Aboriginal status, and housing). The thirty-day readmission rates and length of hospital stay for children and youth with CCN will be compared to the national pediatric average. We can then establish whether children and youth with CCN accounted for a disproportionately high share of hospitalization expenditures.

Conclusion: Although a small proportion of the overall pediatric population, children and youth with CCN account for disproportionate share of hospitalizations and healthcare costs in Canada. Findings from this study could inform programing and cost-savings. Proposed areas of future research include the development of risk stratification profiles for this population.

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Author: Michelle Howard

Title: Patterns of physician care at the end of life: Research in progress to describe continuity of care, using health administrative data in Ontario

Type of Abstract: Poster Presentation

Background and Objectives: Initiatives across Canada are focusing on increasing access to palliative care services. There are not enough specialized palliative care clinicians and models of physician care vary widely depending on local circumstances. For these reasons, care may be fragmented, despite possible benefits of continuity. The ideal mix and continuity of care is not known. This study aims to describe continuity of physician care in the last year of life.

Approach: We will conduct a retrospective cohort study of the delivery of physician care for Ontario decedents age 18 years and older. Health administrative data at IC/ES will be used from 2010 to 2016. Indices of continuity will be used to describe physician care over the last months of life examining concentration of care by a single physician and sequential continuity of care. Continuity will be described for decedents overall and by trajectory - terminal (i.e. cancer), frailty, or organ failure, by proximity to end of life (e.g. last 6, 3, 1 months) and by geography (e.g. health

Results: Over the study period, we expect to have data on over 300,000 decedents. We anticipate that there will be times in the last months of life where continuity of care may be low from the perspective of overall concentration with a single physician, and there will be sequential discontinuity. We also anticipate continuity may be lower at times for decedents with frailty or organ failure trajectories compared to terminal trajectories.

Conclusion: This descriptive study is part of a larger study examining the impacts of different patterns of physician care on end-of-life outcomes. Common indices of continuity of care have not previously been described in the last months of life for different dying trajectories, in Canada. The results will directly inform

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Author: Jeremiah Hwee

Title: What to bundle next? Building a case for bundled care

Type of Abstract: Poster Presentation

Background and Objectives: Episode-based payment holds potential to improve quality and efficiency in care. Bundled care is an approach used to reduce unnecessary care and cost variation and shift the system towards best practice care. The Ontario government piloted six bundled care projects with positive interim results creating a motivation to expand bundled care, however, it is unclear what to bundle next. The objective was to identify which clinical areas hold the greatest promise to bundle care.

Approach: Definitions for episodes of care and practice recommendations developed by Health Quality Ontario, and a multidisciplinary expert committee were used to select clinical areas for consideration. Care episodes for Ontario adults aged ≥ 18 years that underwent hip fracture surgery, non-emergent spine surgery, or cancer-related surgeries including colorectal, thyroid, and lung were evaluated from 2012 to 2018. Clinical and administrative leaders were engaged to identify patient, hospital and health system outcomes. Hospital readmissions, length of stay, emergency department visits, physician visits, and costs over time were assessed for each procedure. Multi-level regressions and coefficients of variation were used.

Results: We found using an iterative process of presenting and interpreting results to clinical and administrative leaders built trusting relationships and promoted engagement. We highlighted variations in care and costs across episodes to identify areas for improvement in patient care for which bundled care can be effective in improving quality and efficiency in care. Hip fracture, non-emergent spine and colorectal surgeries had the most immediate potential for improvements in quality and efficiency in care due to wide variation in outcomes. We found results must also align with clinical leadership to lead the project, operational readiness to implement, and administrative priorities. Surgical procedures that best aligned with clinical leadership, operational readiness and administrative priorities would become the next bundled care models.

Conclusion: Using an evidence-informed standard definition for episodes of care is a viable method to empirically evaluate candidate procedures for bundled care. Marrying empirical evidence with early and consistent engagement with decision-makers was essential in identifying the next bundled care models that showed promise and aligned with organizational factors.

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Author: Adam Jordan

Title: Exploring Health Care Consumer Involvement in Clinical Practice Guideline Development.

Type of Abstract: Poster Presentation

Background and Objectives: Patient and public involvement (PPI) in clinical practice guideline (CPG) development has a range of benefits and challenges, which vary with strategies used; however, no literature yet exists describing current practice in Canada. This study seeks to describe PPI strategies used in development of Canadian CPGs for the management of mood and anxiety disorders. This study will characterize what groups are involved, as well as how and why they are involved.

Approach: Canadian CPGs for management of mood and anxiety disorders, developed after 2013, were collected. Web-based material describing the development process for each guideline was also identified. This material was analyzed using qualitative content analysis to categorize groups of patients or other members of the public which were involved in CPG development, strategies used, and the intentions behind utilizing PPI in CPG development. Interviews with CPG authors were conducted, which focused on why patients and the public may be involved or excluded in CPG development, as well as collecting information on emerging strategies used to achieve PPI in CPG development.

Results: Of twelve CPGs reviewed, only two contained clear indication of PPI during their development. Preliminary results from review of web-based material confirm that PPI in CPG development remains a poorly utilized practice in Canada. Among those organizations which have published descriptions of PPI in their CPG development procedures, a wide range of strategies have been used. Interviews completed thus far reveal an increasing awareness and acceptance of the potential benefits of PPI in CPG development; however, professionals responsible for CPG development remain uncertain with regards to what benefits they should be striving for specifically, and how these may be most effectively achieved.

Conclusion: Although literature points to a consensus that PPI should be considered an important aspect of CPG development, current results highlight that this remains an uncommon practice within Canada, with little standardization in methods or intentions. Future research should explore how we may effectively promote PPI in CPG development.

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Author: Sanja Jovanovic

Title: THE PROVINCIAL GUIDELINES EFFECT ON RISK-BASED ACCESS TO CARDIAC CATHETERIZATION IN PATIENTS WITH NON-ST ELEVATION ACUTE CORONARY SYNDROMES IN NOVA SCOTIA (2003 – 2013)

Type of Abstract: Poster Presentation

Background and Objectives: Guidelines for non-ST-elevation acute coronary syndrome (NSTEMACS) recommend early cardiac catheterization in patients at high risk of adverse cardiac events. The Nova Scotia Department of Health developed and implemented their own guidelines for ACS and recommend an early cardiac catheterization in NSTEMACS based on patient risk. We investigated practice adherence to the guidelines recommendations by examining utilization and timing of cardiac catheterization, as well as one-year mortality in NSTEMACS population in relation to patient risk.

Approach: We conducted a retrospective cohort study (n= 25463 patients with first hospitalization for a NSTEMACS event, CVHNS registry), 2003-2013. The primary outcome was adjusted utilization of (any) cardiac catheterization during hospitalization, and early catheterization (within 24 hours). The secondary outcome was adjusted one-year mortality. Multivariable logistic regression models were fit to examine the association of risk groups based on The Nova Scotia Non-ST Elevation Acute Coronary Syndrome Long Term Mortality Risk Score (NS risk score; internally validated), with receiving (any) cardiac catheterization during hospitalization and receiving early catheterization, and with one-year mortality.

Results: Compared to low-risk group, odds of receiving early cardiac catheterization for high-risk group was 0.41 (95% CI 0.36 – 0.46), very high-risk 0.14 (95% CI 0.12 – 0.17), and intermediate-risk 0.85 (95% CI 0.76 – 0.94). When stratified by guideline period, the odds of early cardiac catheterization for intermediate group in the post-guideline period approached those of reference group (low-risk) while odds for high-, and very high-risk group showed small increases compared to those in the pre-guideline period. Adjusted ORs of one-year mortality, for those receiving (vs. not receiving) early cardiac catheterization were 0.18 (95% CI 0.05-0.77) for the low-risk group, 0.54 (0.41 – 0.7) for the intermediate-risk, 0.33 (0.25 – 0.42) for the high-risk, and 0.32 (0.23 – 0.44) for the very high-risk group.

Conclusion: While provincial catheterization rates increased, higher risk patients were less likely to receive the procedure. One-year mortality was lower for those receiving catheterization, especially for patients at intermediate to high risk. Targeting catheterization to higher risk patients would be more consistent with recommendations, and has potential to result in improved outcomes.

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Author: Katherine Kelly

Title: Social media and peer-to-peer support for individuals with complex care needs and their caregivers: a scoping review

Type of Abstract: Poster Presentation

Background and Objectives: While children with complex care needs (CCCN) experience multidimensional health and social care requirements, their families also require substantial information and emotional support to become advocates for their child's care. Online peer-to-peer (P2P) support offers an accessible and inexpensive source of support for families of CCCN. The current study aims to develop a framework for implementing an online P2P forum for families of CCCN in New Brunswick (NB).

Approach: A scoping review was conducted to better understand the use and application of online P2P supports, and to determine the optimal social media platform for hosting a P2P forum for families of CCCN. Relevant articles were identified through searches in four major databases (Scopus, PubMed, CINAHL, Medline) and by hand searching references. Non-peer reviewed literature was identified through Google searches until the point of saturation. Potential platforms for hosting the proposed P2P support tool were identified and assessed through available evaluations of relevant interventions.

Results: A total of 94 articles were included in the final review of related literature. Social media websites that demonstrated versatility and accessibility (e.g. Facebook, YouTube, Twitter) were identified as virtual environments where patients gather to engage in P2P support activities. Facebook, in particular, was identified as the most widely-used platform in Canada. Facebook's prominence as an important source of P2P support can be attributed to its large volume of health-related information presented across a range of topics. Of significance is recognizing that social media health information dissemination is fraught with concerns that include ethics, privacy (e.g. patient confidentiality), and the potential to spread mis-information. Moreover, barriers associated with access must be considered.

Conclusion: Social media platforms, like Facebook, offer an innovative, cost-effective approach to promote P2P support for patients and their families. Considerations must be made to ensure meaningful interaction and retention. Findings will be used to develop and evaluate an online P2P support tool for families of CCCN in NB.

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Author: Asif Raza Khowaja

Title: Costs and benefits of quality improvement strategies in long-term care: a rapid review and synthesis of the economic literature

Type of Abstract: Poster Presentation

Background and Objectives: Quality improvement (QI) in long-term care is central to improve health outcomes and promote safety behavior in the workplace. Expressing the value of non-technical skills aiming at 'cultural change' through QI strategies is critical to policy decisions. This study aimed to identify emerging cost drivers and benefits (i.e., health and non-health indicators) to guide the economic evaluation of a province-wide QI initiative (namely Call for Less Antipsychotics in Residential Care'-CLEAR) in British Columbia (BC).

Approach: A rapid review of the economic literature was conducted. The articles were retrieved from three electronic databases including PubMed, EconLit and Google Scholar. Studies focused on QI in the elderly population, published from January 2008 to December 2018, and available in the English language were considered eligible. Key search expressions/terms were used with a combination of QI-costs, outcomes, benefits, cost-effectiveness, and long-term care. We applied a Consolidated Health Economics Evaluation Reporting guideline to critically appraise the quality of studies included in the review.

Results: The search identified 1847 articles, of which 92 were screened and 9 met the eligibility criteria. The financial costs were categorized into three groups: (i) developmental, (ii) program implementation, and (iii) healthcare-related. The terms 'Quality of life-QoL', 'Health-related Quality of Life-HRQoL' and 'Quality of Care-QoC' were interchangeably used to report the benefits. A majority of studies (n=7) analyzed indicators related to QoC (i.e. reduction of adverse events). Almost all studies reported a public payer perspective, and a discount rate ranging from 0 to 5%. This review also highlighted a number of methodological challenges such as poorly defined baseline, constantly changing culture/behavior, modification in the clinical practice guideline/policy change, complex nature of the intervention, lack of appropriate comparator, varying duration of implementation, and inadequate sample size.

Conclusion: The economic literature of QI strategies focusing on 'cultural change', particularly in the area of long-term care is scarce. This review identified important knowledge gaps and research needs regarding societal costs, and standardized HRQoL indicators. Methodological considerations highlighted in this review provides valuable directions for future economic studies.

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Author: Catherine Lamoureux-Lamarche

Title: Perceived need for mental health care and health-related quality of life in older adults consulting in primary care in Quebec

Type of Abstract: Poster Presentation

Background and Objectives: In Canada, the prevalence of perceived need for care (PNC) has been estimated to reach 75% among adults with mood or anxiety disorders. Data on PNC for common mental health (CMH) disorders and its association with quality of life in older adults are scarce. The aim of this study was to assess the association between health-related quality of life and PNC for CMH problems in older adults consulting in primary care.

Approach: This study included 762 older adults consulting in primary care who participated in the subsequent waves of the longitudinal study ESA-Services conducted between 2011 and 2016 in Quebec. Health-related quality of life was assessed using the visual analog scale, which ranged from 0 to 100. Perceived need for mental health care was measured at wave 3 using an adapted version of the Perceived Need for Care Questionnaire (unmet, met or no need). Multinomial regressions were used to evaluate the association between health-related quality of life and PNC controlling for socio-demographic and clinical factors.

Results: Prevalence of unmet and met needs were 16.0% and 16.7%. 67.3% of older adults did not report a need for care for CMH problems. Among those with a CMH disorder (depression or anxiety), 50% reported a perceived need for mental health care (met or unmet). Results showed that older adults with a met need for CMH problems were more likely to be women and to report an anxiety disorder compared to participants with no perceived need. Older adults with a met need also reported lower health-related quality of life compared to older adults without a perceived need. Participants with an unmet need and a met need did not differ with respect to socio-demographic and clinical factors and health-related quality of life.

Conclusion: The assessment of PNC is an important subject in healthcare service research as it represents the patient perspective and might be a better predictor of health treatment outcomes. Future studies should focus on PNC association with persistent CMH problems and healthcare use and costs.

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Author: Catherine Lamoureux-Lamarche

Title: Unit costs for healthcare service use for MH problems and other conditions in Quebec: the healthcare system perspective

Type of Abstract: Poster Presentation

Background and Objectives: Costs associated with healthcare use are usually assessed using unit costs. In Canada, these cost estimations are generally not disease-specific and rarely include indirect costs. The aim of this study is to estimate unit costs for healthcare use (ambulatory, emergency department (ED), day surgery, day hospital and hospitalisation) for mental health (MH) problems and other conditions using provincial administrative data from Quebec.

Approach: Unit costs were calculated using provincial mean costs of activity centers estimated with the 2013-2014 financial reports (AS-471) from the Quebec ministry of health and social services and opportunity costs for buildings and lands obtained from the literature. Unit costs were estimated per visit for ambulatory and ED visits and per diem for day surgeries and hospitalisations. Unit costs for an ambulatory visit, a hospitalisation day and day hospital were estimated for MH problems. Each unit cost included medical (laboratory and imaging tests, medical furnitures, care provision), general (laundries, housekeeping and hygiene), other (maintenance and security) and opportunity costs.

Results: Our results showed that an ED visit cost 303\$ CAD. A hospitalisation was estimated at 449\$ CAD per day for MH problems and 548\$ CAD per day for other conditions. A day surgery cost on average 1685\$ CAD per surgery. MH day hospital was estimated at 124\$ per day. An ambulatory visit for other conditions cost 67\$ CAD. Ambulatory visits for MH problems were estimated at 67\$ CAD plus 640\$ CAD per user (per year) for a hospital visit and 261\$ per visit plus 1146\$ CAD per user (per year) for a visit in a local community service center. It is important to note that these costs do not include fees paid to physicians for medical procedures.

Conclusion: In this project, we were able to estimate unit costs that include direct and indirect costs using provincial data. These unit costs are relevant to estimate more precisely healthcare costs from the healthcare system perspective. Future studies should focus on costs related to social services (ex. community organisations).

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Author: Janelle Boram Lee

Title: Canadian Provincial Variations in Birth Outcomes According to Maternal Country of Birth, 2000-2016

Type of Abstract: Poster Presentation

Background and Objectives: Immigration is the leading contributor to population growth in Canada and will be the only one by the next decade. Research on disparities and risk factors in birth outcomes among immigrants is largely based on Canadian provincial data, raising concerns about generalizability of findings to other provinces or at the national level. We describe Canadian provincial variations in birth outcomes according to the geographical origins of mothers.

Approach: We used data from the Canadian Vital Statistics Birth Database administered by Statistics Canada, which includes birth certificate records provided by provincial/territorial vital statistics registrars. The study population comprised all singleton live births from 2000 to 2016. We adapted the United Nations Classification of World Regions for grouping maternal birthplaces. To examine the association between maternal birth countries and provincial variations in birth outcomes, adjusted risk ratios were calculated for preterm birth (PTB) and small-for-gestational age (SGA), and adjusted mean differences for at-term (39-40 weeks) birth weights between infants born to foreign-born mothers and those born to Canadian-born mothers.

Results: The cohort included 5,831,580 livebirths. Proportion of births to foreign-born mothers rose from 23.7% in 2000 to 30.7% in 2016 with provincial variations – doubled in Alberta, Manitoba, and Atlantic Canada, and quadrupled in Saskatchewan. Compared with infants born to Canadian-born mothers, births to mothers from Eastern, Western, and Central Asia, North Africa, US, and Europe (excluding United Kingdom) showed lower rates of PTB; births to mothers from Bangladesh, South Eastern Asia (excluding Vietnam), and Caribbean showed higher PTB rates. For SGA, births to mothers from Asia (excluding China), Sub-Saharan Africa, Caribbean, and South America showed higher rates and those born to mothers from US and Eastern Europe had lower rates. Infants born to mothers from all regions, except the US, showed lower mean birthweight.

Conclusion: Past 17 years, proportion of births to immigrant mothers has steadily increased in Canada, but not uniformly across provinces. Maternal birth country is associated with birth outcomes consistently across provinces, with a few exceptions. Findings aid understanding of perinatal health associated with immigration and decision-making in healthcare supporting this population.

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Author: Maude Lévesque Ryan

Title: EMR's Impacts on the Management of ACSC: a Scoping Review

Type of Abstract: Poster Presentation

Background and Objectives: Electronic medical records (EMRs) present opportunities to support primary care providers in addressing challenges associated with chronic disease management. Positive impacts related to EMRs have been reported in hospital and tertiary care settings. Nevertheless, limited information is available on EMRs impacts on the management of ambulatory care sensitive conditions (ACSC) in primary care settings. This study addresses this gap and presents the results of a scoping review that examined EMRs impacts in this area.

Approach: In order to assess the breadth and nature of existing evidence, four databases (CINAHL, EMBASE, MEDLINE and Web of Science) were consulted using consistent keywords (e.g., asthma, outpatient, electronic medical records, impacts etc.). Articles obtained through this comprehensive search were screened based on the inclusion/exclusion criteria. Non-empirical articles, articles published before 2012, and studies conducted in secondary or tertiary care settings were systematically excluded. Systematic data extraction was performed using a developed coding scheme; a close examination of reported impacts on quality of care at the process (e.g., adequate prescribing) and outcomes (e.g., hospitalization rates) levels was conducted.

Results: 39 articles from five countries were included in this review. Most studies were conducted in the U.S. (85%); three studies were from Canada. The ACSC considered were diabetes (30 articles), hypertension (8 articles), asthma (5 articles), congestive heart failure-CHF (2 articles), chronic obstructive pulmonary disease-COPD (1 article). EMRs impacts on diabetes management were mixed but mostly positive for all categories of quality measures including process and outcomes measures. Positive impacts were also noted for hypertension management (e.g., improving the blood pressure control). In the case of asthma, process measures were improved (e.g., improved prescription of inhaled corticosteroids); EMRs impacts on outcomes measures were mixed. Impacts were positive for CHF. Surprisingly negative effects were observed for COPD.

Conclusion: Positive impacts associated with EMRs use were observed, although empirical evidence was scarce and inconclusive with the exception of diabetes. A systematic review on the impacts of EMRs on the management of diabetes is recommended to evaluate these impacts' magnitude and significance; more research is needed for the other ACSC.

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Author: Lilian Jia Lu Lin

Title: Engaging Children and Youth in Policy Development for Medical Assistance in Dying (MAID) in a Paediatric Setting

Type of Abstract: Poster Presentation

Background and Objectives: Canada's decriminalization of medical assistance in dying (MAID) in 2015, which allowed capable adults whose death is "reasonably foreseeable" the option to end their life with the assistance of a doctor or nurse practitioner, has generated tremendous controversy as well as legal uncertainties for healthcare institutions that receive MAID requests.

Approach: In developing a policy to guide clinical management of MAID cases for patients 18 years and older that may in the future apply to mature minors, the MAID working group at The Hospital for Sick Children (SickKids) has solicited feedback from the hospital's Family Advisory Committee on its draft MAID policy. Through a bioethical analysis using the communitarian approach, I will argue the thesis that young patients and siblings serving on the SickKids Children's Council also have the right to weigh in on the draft MAID policy.

Results: While it may seem acceptable from a paternalistic view to forgo consulting the Children's Council in order to avoid causing potential harm and discomfort to its members, a communitarian approach which emphasizes societal values and norms and having respect for all members of a society makes it imperative for SickKids to consult with its constituents who may be the most affected by its policy.

Conclusion: Given the polarized societal attitudes towards MAID as a result of Canada's diversity of cultural, religious, ethnic, and linguistic experiences, a communitarian perspective offers a fruitful starting point for examining a deeply divisive topic such as MAID policy development in the paediatric setting.

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Author: Elena Lopatina

Title: Reflections on the experiences of the inaugural cohort of PhD Health System Impact fellows

Type of Abstract: Poster Presentation

Background and Objectives: In the light of the increasing number of PhD graduates choosing career paths outside the academy, the Canadian Institutes of Health Research (CIHR) introduced a Training Modernization Strategy to ensure that PhD students develop professional competencies relevant outside academic environments. The Health System Impact (HSI) Fellowship is one pillar of this strategy that offers trainees impact-oriented experiential learning opportunities within health system organizations. In 2018, the first cohort of PhD HSI fellows started their fellowships.

Approach: The inaugural cohort of academic HSI fellows started an informal online group to provide peer support to other fellows while navigating the course of their respective 1-year fellowships. Members of the online group plan to conduct focus groups to learn more about the experiences of PhD HSI fellows, including how their role has been defined and evolved with their health system partner, and how commitments and responsibilities between their academic and health system partners have been managed. This work reflects on shared experiences of fellows included in the peer support group on the first semester of their fellowships.

Results: Thirteen fellows joined the online group. Fellows represent 12 universities and 13 partner organizations and vary in the year of the PhD training (junior years [N = 3], senior years [N = 10]), nature of their partner organization (government [N = 6], for-profit [N = 1], and not-for-profit [N = 6]), and the extent to which the fellowship project is embedded in the PhD research [N = 8] or is distinct [N = 5]. Some challenges experienced include limited ability to pursue the project outlined in the application and limited understanding of the fellowship specifics by universities. Nonetheless, the program is highly valued by the fellows and provides opportunities to accelerate professional growth and career readiness, including experiential learning and allocated time for professional development.

Conclusion: The PhD HSI fellowship provides fellows invaluable opportunities to accelerate their career readiness for impactful careers to address health systems challenges. Understanding the experiences of the inaugural cohort of PhD HSI fellows can contribute to an improvement of further initiatives to modernize PhD training for future health systems leaders.

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ID: 258

Author: Kerrie Luck

Title: A Logic Model to Guide the Implementation And Evaluation Of NaviCare/SoinsNavi: A New Brunswick Navigation Centre For Children and Youth With Complex Care Needs

Type of Abstract: Poster Presentation

Background and Objectives: Current systems are not well integrated and do not provide the needed supports, resources or access caregivers and families require to properly care for their child with complex care needs (CCNs). This can often create confusion and have an impact on continuity of care. This lack of integration also impacts how care is delivered and documented when families and children are moving back and forth between acute-care and the community.

Approach: NaviCare/SoinsNavi is a research-based navigation centre aimed to help facilitate more convenient and integrated care to support the needs of children/youth and their families using a patient navigator to offer personalized family-centred care. With limited funds for healthcare and research, the need for accountability and to ensure the programs put in place are accomplishing their set goals (or if not, why) are paramount. With this at the forefront, the Navicare/SoinsNavi team set forth to develop a logic model that would help guide program implementation and ensure the goals of the centre could be evaluated and achieved.

Results: A logic model was developed by the NaviCare team to facilitate the foundational work needed for a successful program, such as planning, establishing program goals and objectives, as well as providing a logical illustration of how the program will work. This visual representation of the assumed cause-and-effect connections between program components and desired outcomes informed the identification of inputs, activities, and outputs deemed critical for successful program execution, and for the research and evaluation of both the processes, and program as a whole. This provided a safeguard to ensure critical activities were not overlooked, allowed the comparison of the ideal versus the realities of the program, enhanced communication, and highlighted data and resources that may be needed for implementation and evaluation.

Conclusion: The NaviCare/SoinsNavi logic model will help guide the research and development of the program and identify variables to be evaluated. This will support achieving NaviCare/SoinsNavi's vision that every child and youth with CCNs has access to the required health, social, and education services they require in a timely manner.

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Title: EXPERIENCES OF FAMILIES USING NAVICARE/SOINSNAVI: A PATIENT NAVIGATION CENTRE FOR CHILDREN WITH COMPLEX CARE NEEDS IN NB

Type of Abstract: Poster Presentation

Background and Objectives: NaviCare/SoinsNavi is a patient navigation centre for children and youth with complex care needs in New Brunswick that was launched January 2017. The patient navigators help coordinate patient care; improve transitions in care; connect both families and care providers to services and programs; help families better understand health, education, and social services; and serve as a resource for the care team. The objective of this presentation is to present findings from the implementation of NaviCare/SoinsNavi.

Approach: A mixed method approach was used to explore parents' experiences with NaviCare/SoinsNavi. Fourteen participants who received services from NaviCare/SoinsNavi participated in semi-structured interviews, which were conducted either face-to-face or over the phone. Thirteen participants also responded to a satisfaction survey that was emailed to all NaviCare/SoinsNavi clients once their file was closed. Additional demographic information was collected to provide context. Interview data was analyzed using inductive thematic analysis, which is a research method for identifying, analyzing, and reporting themes within the data. Survey data was analyzed using descriptive statistics.

Results: Although children served by the centre vary by condition, age, and gender, the 'typical' child is: male, between the ages of 6 and 11, and diagnosed with autism spectrum disorder (ASD) or Attention Deficit Hyperactivity Disorder (ADHD). Most common reasons for calling the centre include seeking support for service referrals, care coordination, and funding. Findings demonstrate that families have substantial needs reflecting gaps and barriers in care delivery across the province. Overall, families were extremely satisfied with the centre. Emerging themes from interview data include: 1) living with a child with complex care needs, 2) navigating the system, 3) looking for help, and 4) the value of NaviCare/SoinsNavi.

Conclusion: This study demonstrates that patient navigation is an innovative service delivery approach to improve the integration of care for individuals with complex care needs. Future research is needed to measure the impact of patient navigation programs on care coordination, return on investment, and health outcomes to inform policy and practice.

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Author: Janice MacNeil

Title: Canadian Stability Analysis - Comparison of ICD-10-CA and ICD-11

Type of Abstract: Poster Presentation

Background and Objectives: Diagnostic classification enables the capture of information from health encounters for research, policy and decision-making. WHO launched the development of ICD-11 in 2007, with formal adoption anticipated in 2019. CIHI is embarking on projects to assess the clinical, business and statistical implications of implementing the new version for morbidity statistics. The work focuses on fitness for use and the impact of transitioning from ICD-10-CA to ICD-11 for Canadian specific codes and select CIHI Indicator codes.

Approach: All Canadian code enhancements to ICD-10-CA (3903 codes) and select ICD-10-CA codes used in Canadian Indicators (2752 codes) were assessed for comparability to ICD-11 code content. Using the ICD-11 Coding Tool, classification specialists assigned each codes to categories based on the comparison of their mapping. For cases where ICD-11 was less specific than ICD-10-CA, we assessed whether post coordination (combining multiple codes) could result in code equivalencies. Reliability was assessed through comparison of the outputs to WHO-ICD-10/ICD-11 mapping tables and through inter-rater reliability. Code utilization patterns across Canada were reviewed to assess pan Canadian impact for this set of codes.

Results: Out of 6170 codes assessed, 13.2 % (n=817) were found to be exact matches between ICD-10-CA and ICD-11. 2.06% (n=127) were more specific in ICD-11 than ICD-10-CA, while 82.4 % (n=5084) were less specific (entailing a loss of detail). In 1.4 % (n=88) of cases there was no match, meaning that Canadian-specific content could not be found. Where ICD-11 was less specific, post coordination (combining more than one code) enabled exact matches in 43.5 % (n=2686), partial matches in 24.9% (n=1267) and 18.0% (n=1115) were unmatched (additional specificity could not be added). These findings represent preliminary results with further analysis and validation currently in process.

Conclusion: If a diagnostic classification fails to capture useful information from health encounters, this will have negative consequences for the validity of data used for research, policy and decision-making. The impact of ICD-11 adoption in Canada will be significant; this work will inform strategies to guide decision making about ICD-11 implementation.

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Author: Maggie MacNeil

Title: Moving beyond facilitators and barriers: Policy options to facilitate innovation and adoption of health technologies for older adults

Type of Abstract: Poster Presentation

Background and Objectives: Over 85% of older adults wish to age in place in their homes, even if their health status changes (Canadian Mortgage and Housing Company, 2018). Technologies can empower older adults to age in place and delay placement to long-term care, but innovators find it difficult to navigate multiple sets of policies and regulations across jurisdictions to bring their technologies to market in Canada

Approach: A scoping review and a qualitative interview process with relevant stakeholders (innovators, researchers, decision-makers, industry-representatives), have created an inventory of facilitators and barriers to health technology innovation and adoption for older adults in Canada (MacNeil, Koch, Kuspinar, Juzwishin et al., 2018). Content analysis will be used to code these items into specific policy actions (Hsieh & Shannon, 2005). A Delphi approach, (using questionnaires with rounds interspersed by controlled feedback) will be used to rank policy options on their relevance and feasibility to facilitate health technology innovation and adoption for older adults.

Results: Delphi methodology serves to organize and combine stakeholder opinions on the most relevant and feasible policy options to address issues that hinder promising technologies from being used to support older adults to live independently in their homes. The Delphi process is expected to demonstrate which evidence-informed policy options are deemed the most relevant and the most feasible to be implemented, based on input from a diverse stakeholder group. Results are expected to reflect budget constraints in health care, and the value of diverse partnerships across all stages of technology innovation.

Conclusion: This work aims to understand expert stakeholders' perceptions about the relevance and feasibility of evidence-informed policy options to facilitate innovation and adoption of health technologies for older adults.

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Author: Tuhin Maity

Title: Economic Impact of Adverse Drug Reactions (ADRs): A Data-Driven Perspective

Type of Abstract: Poster Presentation

Background and Objectives: The economic burden of Adverse Drug Reactions (ADRs) is frequently overlooked. Clinical trials are not very effective for detecting low-frequency ADRs, and post-trial reporting of ADRs is often lagged or omitted. With the recent progress in data collection, we aimed to gain insight into the real-world ADR rates and their economic burden using two brand-name TNF- α inhibitor drugs, Remicade and Humira, as a case study.

Approach: We analyzed the ADR reports in the Canada Vigilance Adverse Reaction Online Database from 2013 to 2017. Remicade and Humira, together, were associated with approximately 20% of all the ADRs reported during this period. Using these data, we estimated real-world ADR risks for these two drugs, and compared them with the ones reported in clinical trials. We converted the ADR risks into quality of life decrements. We assessed the healthcare delivery costs and productivity loss resulting from ADR-related hospitalizations and deaths. Together, we made a case for the inclusion of ADR risk and cost into economic analysis of these pharmaceuticals.

Results: Remicade and Humira were associated with more than 55,000 ADR reports in 2013-2017, which included 750 deaths and 14,000 hospitalizations. Based on their combined market size, we estimated that $16.2 \pm 0.6\%$ of all patients received Remicade or Humira reported an ADR, leading to a small but significant loss of QALY. We found that the real-world estimates of ADR risks could display both higher and lower rates when compared to reports from clinical trials. We assessed that the average annual healthcare delivery costs and productivity loss resulting from ADR-related hospitalizations and deaths for these two drugs were $\$12.2 \pm 1.4$ million and $\$29.0 \pm 10.4$ million, respectively. Together, this is equivalent to $\$637 \pm 249$ per person-year among all the recipients of Remicade or Humira.

Conclusion: The magnitude of ADR-related economic burden estimated in this paper indicates that the cost of ADRs can be significant, and needs to be accurately reflected in economic analysis. Future data-driven analytics-based research for evaluating the frequency and costing of ADRs will improve the accuracy of clinical and economic evaluations.

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Title: Enhancing access to care through a pop-up model of service delivery: Service provider practice changes and organizational policy implications

Type of Abstract: Poster Presentation

Background and Objectives: The Alberta Local Innovation Partnership (LIP) of the Innovative Models Promoting Access-to-Care Transformation (IMPACT) research project designed and implemented pop-up health and community services events in Lethbridge, Alberta. The pop-up events brought together primary healthcare (PHC) service providers to provide care in different locations to people who are underserved by, and struggle to connect with, PHC services.

Approach: Participatory action research (PAR) approaches were used to design and implement the pop-up events. We worked closely with PHC service providers to improve the engagement and approachability of services at the pop-ups. Over the course of the research program, a 'learn as you go' mindset informed continuous improvements to service providers' approaches to practice. These included shifting from designated 'navigators' to incorporating navigation in everyone's role, practicing warm handoffs, coming out from behind your table, and using plain language signage and materials. Service providers attended planned rehearsals before each pop-up event where these improvements to the pop-up model were introduced.

Results: Follow-up interviews with service providers revealed that they had embraced the ideas introduced at the pop-ups to provide care differently. Service providers said they individually adopted new ways of practicing navigation, warm handoffs, and using new tools to improve engagement and approachability. Further, service providers reported advocating with their leadership for more far-reaching changes, such as expanding outreach, recognizing the unique needs of vulnerable populations (e.g., transportation), and improving referral processes.

Conclusion: The pop-up model for PHC service delivery has improved access to PHC by promoting changes in the way service providers provide care. New and creative ways of providing care were introduced and tested. Service providers adopted many of these ideas within their organizations, influencing operational and programmatic policy changes.

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Title: Measuring and reporting what matters: regional portraits of patients' medical homes

Type of Abstract: Poster Presentation

Background and Objectives: There has been little evaluation of the impact of strategies to improve performance in primary care in Canada. The TRANSFORMATION team developed a methodology that could inform the monitoring of progress at a regional level using the Patient Medical Home (PMH) framework. The PMH is a care delivery model where patient treatment is coordinated through their primary care clinician. This study aims to identify the degree of variation at a regional level in attaining goals

Approach: Study design: Mixed methods: concurrent descriptive using practice-based surveys, administrative data, case studies.

Setting: Three regions meant to have similar population characteristics based on Statistics Canada peer groups: Fraser East, British Columbia; Eastern Ontario, Ontario; Central Zone, Nova Scotia.

Participants: 1206 patients linked to 87 unique primary care practices; 25 decision-maker and clinician interviews, 6 focus groups (n=3: patient; n=3 clinician)

Intervention/Instrument: Patient experience and organizational surveys; document review; interviews and focus groups

Main and secondary outcome measures: Ten pillars of PMH: patient centred-care, personal family physician, team-based care, timely access, comprehensive care, continuity of care, electronic medical records, evaluation, education and

Results: The TRANSFORMATION study collected the most comprehensive collection of primary care data in Canada using patient, clinician and organizational surveys; administrative data; and case studies. There is regional variation across pillars of the Patient's Medical Home. There is also regional variation across different dimensions within each pillar. For example, the continuity pillar consists of patient experiences of coordination orientation; organizations' experience of practice integration, coordination, & information; and administrative data about relational continuity. Case study data provide insights into these variations.

Conclusion: The portraits provide information about regional level variation in attaining PMH goals. TRANSFORMATION provides foundational work to inform a health information infrastructure in moving towards PMH and learning healthcare system.

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Title: Patient/Caregiver-Researcher Partnerships: Developing an Experience-Based Online Training Module for Patient-Oriented Research

Type of Abstract: Poster Presentation

Background and Objectives: Engagement of patients/caregivers as partners in research is typically adopted to foster effective collaborations that yield higher quality research processes and outputs. Yet patients and researchers alike have identified the need for further evidence regarding the value of engagement, practical insights into others' experiences, and training to develop skills and knowledge. This project aims to provide a deeper understanding of partnership experiences, and to create an online training module to help advance patient-oriented research.

Approach: We will conduct individual narrative video interviews with 15 patients/caregivers and 15 researchers (variation sampling as per individual attributes and partnership experiences). Interviews will be digitally recorded and transcribed verbatim. Thematic analysis will identify themes important to participants, and we will explore differences and similarities between patient/caregiver and researcher responses. We will then co-design and develop an online training module – featuring the stories of those we interview. Our advisory group includes scientists, educators, patients, and caregivers to guide the development of a product that complements existing training resources. A mixed methods evaluation will follow the launch of the module.

Results: We have conducted 17 interviews to date in 3 jurisdictions across 2 provinces. Our preliminary analysis indicates consistency with existing literature on partnerships and engagement, with some important nuances – e.g. the particular challenges that this type of research presents for early career scientists, the complexity of partnership where people have multiple roles, and variable perspectives on required intensity of engagement. We anticipate that the final collection of narratives, and online module (based on the analysis of the interviews) will contribute valuable insights regarding lived experiences of partnership that will be instructive for both patients and researchers. The training module will be made freely available on www.healthexperiences.ca and OSSU web sites. The evaluation is expected to demonstrate value in sharing experiences in peoples'

Conclusion: The findings of this study will provide learnings of the challenges and benefits related to engagement in patient-researcher partnerships and suggestions to help individuals prepare for, and reflect on, their roles. The online module will support training and help people and teams navigate effective collaborations to strengthen patient-oriented research practices.

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Title: Inequity in access to dental care in Canada

Type of Abstract: Poster Presentation

Background and Objectives: Objectives: Inequity in access to dental care in Canada is an enduring problem. The aim of this study is to understand how organized dentistry influenced the termination of programs with alternate forms of delivery that lessened inequity in access to dental care, despite evidence of their quality and success.

Approach: Approach: This study comprised two key phases. The first one involved a scoping review of the literature, and used a data reduction framework to segment data according to the a priori theory of professional dominance. The second phase developed a concept map based on that scoping review in order to visually display how organized dentistry was able to influence the termination of programs improved access to dental care. This map confirmed that the theory of professional dominance can fruitfully be used to guide the direction of further research in this field.

Results: Results: The scoping review revealed that even though organized dentistry was unable to prevent the emergence of alternate programs in the delivery of dental care, it was influential in their termination. It also identified a significant gap in the literature regarding the political dynamics pervading the context of the dismantlement of these programs. More significantly, it uncovered that the overwhelming evidence regarding the quality and success of such programs have been highly ignored. Formulation of the conceptual framework in the second phase, which directed attention to the disregard for available evidence and the political dynamics operating in the context of these programs' termination, sustained and supported important concepts of the overarching theory of professional dominance, such as monopoly of knowledge, social license, self-regulation and gatekeeping.

Conclusion: Conclusion: Investigation into the political dynamics governing programs that improve access would help explain the disregard of evidence concerning their effectiveness. It could reduce the power yielded by the monopoly of knowledge, supporting strategies that counteract or overcome organized dentistry's political influence and help improve access to dental care in Canada.

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Title: Moving towards a learning healthcare system: stakeholder feedback on implementing regional performance portraits

Type of Abstract: Poster Presentation

Background and Objectives: Initiatives to measure primary care performance are now being developed in the Canadian context. However, little information exists on how regional primary care performance reports should be implemented to inform learning health care systems. Objective: To obtain stakeholder priorities on attributes of primary care important to performance reporting, using sample comprehensive primary care performance portraits drafted to show cross-regional context and performance results.

Approach: Multiple comparative embedded case study. Setting: Cases are three comparable health regions in British Columbia, Ontario, and Nova Scotia. Data sources: 1) In-depth interviews (n=18-24) with purposively selected clinicians, health care administrators, and policy makers (e.g. primary care decision-makers, physician leads, regional directors, regulators). Analysis: NVivo (v.11) will be used to manage the data. Using content analysis we will identify themes within and across cases. The code book and coding process will be developed by the research team using inductive and deductive processes in a series of iterative discussions.

Results: Common themes across cases about stakeholder priorities for content and format in regional primary care performance reports are anticipated.

Conclusion: : Results from this study will be combined with previous patient engagement work (two full-day citizen-patient dialogues in each case) to further shape a primary care performance portrait that multiple stakeholders can use to inform improvements in primary care.

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Author: Matthew Menear

Title: Partnering with mental health service users to develop a questionnaire on users' experiences of integrated care

Type of Abstract: Poster Presentation

Background and Objectives: The integration of mental health care in primary care is an essential strategy for improving the care experiences and outcomes of people with common mental disorders. However, we know relatively little about how service users define integrated care and to what extent they perceive their care as integrated or not. The aim of this study was to co-design a questionnaire assessing primary mental health care service users' experiences of integrated care.

Approach: We first conducted a systematic review to identify service-user focused instruments measuring primary mental health care integration. We searched Medline, EMBASE, PsycINFO and the grey literature and ultimately identified 15 eligible questionnaires or scales. Next, we used a User-Centered Design process to co-design a new questionnaire with four adult primary mental health care service users. The process involved several design cycles, including users' definition of integrated care and its constructs, the identification and development of items measuring those constructs, and feedback on initial and revised versions of the questionnaire. All meetings with service users were recorded, transcribed, and analyzed thematically.

Results: Service users perceived that their mental health care was integrated when it was: (1) accessible and primary care and other professionals were reachable, (2) appropriate, safe, and matched their needs, (3) continuous over time, (4) focused on the whole person, (5) person-centered and emphasized their engagement as partners, and (6) recovery-oriented. They also shared their views on the instruments identified by the systematic review how our new questionnaire could be structured and presented. They participated in the selection and prioritization of items to be included in the questionnaire by rating the relevance of 139 items across the six domains of integration outlined above. Over several in-person meetings, they provided feedback on questionnaire prototypes, leading to the creation of a 30-item version ready for broader validation.

Conclusion: Few studies have directly measured primary mental health care integration in Canada and efforts to include users as partners in the evaluation process are rare. Our questionnaire will help us establish a clearer portrait of integrated care, focusing on experiences that matter from mental health service users' perspectives.

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Title: A framework for value-creating Learning Health Systems in Canada

Type of Abstract: Poster Presentation

Background and Objectives: Worldwide there is a growing interest in delivering greater value in healthcare. Learning Health Systems (LHSs), which leverage advancements in science and technology to improve health system performance at a better cost, have been proposed as a strategy for achieving this goal. However, there remains little consensus around how to define and implement LHSs. We thus aimed to develop a conceptual framework that could inform the emergence of value-creating LHSs in Canada.

Approach: The framework was developed by a team of fellows and decision-makers at the Institut national d'excellence en santé et en services sociaux (INESSS). The development process included: (a) a scoping literature review; (b) regular meetings to build the framework; (c) consultations with experts. The scoping review involved searches in bibliographic databases (e.g. Medline, Embase) and the grey literature using keywords related to 'learning health system'. The interdisciplinary team iteratively developed the framework drawing on LHS models and case examples identified in the scoping review, and received feedback on preliminary framework versions from a university committee with LHS-related expertise.

Results: The framework describes four components that characterize LHSs: 1) Core values, 2) Pillars and accelerators, 3) Processes, and 4) Outcomes. LHSs embody certain core values, including inclusiveness, transparency, scientific rigour, and person-centeredness. However, values such as equity and solidarity should also guide LHSs established in countries like Canada. LHS pillars are the infrastructures and resources supporting the LHS, whereas accelerators are those specific infrastructures that enable more rapid learning and improvement. These infrastructures support the execution and routinization of learning cycles, which are the fundamental processes of LHSs. The main outcome sought by executing learning cycles is the creation of value, achieved when systems strike a more optimal balance of impacts on patient and provider experience, population health, and health system costs.

Conclusion: Our framework is informed by previous efforts to conceptualize and describe LHSs but is innovative in how it comprehensively ties together the distinctive structures, processes and outcomes of LHSs. The framework is currently guiding work at INESSS to support the emergence of LHSs in the province of Quebec.

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Title: Risk Screening at Veterans Affairs Canada: Development of a Risk Screening Tool

Type of Abstract: Poster Presentation

Background and Objectives: At Veterans Affairs Canada (VAC), a review of risk screening found existing tools did not incorporate the department's domains of well-being, nor recent evidence on screening for frailty nor evidence on reestablishment risk. Therefore, VAC has initiated work on a new tool that is evidence-based, simple and brief to administer, modifiable by VAC, and effective at triaging clients and potential clients to the appropriate level of care such as case management, guided support, or self-management.

Approach: An intradepartmental working group reviewed the literature and identified 16 risk indicators associated with experiencing a difficult military to civilian transition. Multiple logistic regression modelling was conducted using data from all three cycles of the Life After Service Studies (LASS 2010, 2013, and 2016) and stratified based on four rank groupings (officers, senior non-commissioned members, junior non-commissioned members, and entry ranks). Adjusted odds ratios were calculated for available risk indicators in each model with corresponding p-values. The sensitivity and specificity were calculated for the ability of various scoring mechanisms to predict difficult adjustment to civilian life using LASS 2010 data.

Results: Seven risk indicators had significant odds ratios of two or greater, three or more times across a total of eleven models. These risk indicators were the following: self-rated mental health, activity limitations, needing help with daily activities, social support, satisfaction with main activity, and satisfaction with finances. Additionally, self-rated general health was included because it had high bivariate odds ratios and because it is often asked with self-rated mental health in population health surveys. The past-year main activity question was also included in the tool since it must be asked prior to satisfaction with main activity. Age older than 85 years was also included given the known risk of frailty. The selected scoring option had a sensitivity of 58% and a specificity of 90%.

Conclusion: A nine-item risk screening tool was developed to triage Veterans to VAC services based on their level of risk. This tool was then pilot tested on Veterans across Canada in order to evaluate its effectiveness and adapt the tool according to the experiential knowledge of frontline staff.

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Title: Exploring Mental Healthcare Needs and Challenges of Refugee Women in Winnipeg

Type of Abstract: Poster Presentation

Background and Objectives: The UN Refugee Council reports that 68.5 million people were forcibly displaced in 2017. Since 1959 approximately 700,000 refugees have resettled in Canada; 2016 being a record year of welcoming 58,437 refugees. Women refugees may have unique mental healthcare needs due to their vulnerability to gender-based violence and abuse. The study will assess the mental healthcare need, availability of support, and barriers in accessing health services among recently arrived and resettled refugee women in Winnipeg.

Approach: The research question of this study is what the health system can do better to address the mental health needs of refugee women in Winnipeg. Semi-structured interviews will be conducted with refugee women and service providers/decision makers in Winnipeg. Interviews with refugee women will focus on their lived experience and service accessibility issues. Interviews with service providers and decision makers will focus on policy measures, exploring options for community-based preventative and healing programs which are more culturally appropriate.

Results: The interviews will be analyzed using qualitative inductive analysis and coded for themes based on recurring issues. The analysis will include three steps - familiarization with the data, coding phase and developing conceptual themes. Data analysis will provide information on the kinds of help refugee women need, the help available and the ways they now get help. Forthcoming results from this study can be used to identify the existing gaps in services, alternative ways of developing services, and support for refugee women.

Conclusion: As the refugee women arrive to safety and protection in Canada, language, socio-economic barriers and cultural differences become prevalent. By involving refugee women, decision makers and service providers, this research will generate ideas and provide important policy recommendations for service improvements.

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Title: Healthcare Reforms in Manitoba - An Overview of the Changes and Implementation Challenges

Type of Abstract: Poster Presentation

Background and Objectives: In the fall of 2017 the Government of Manitoba announced some major healthcare policy reforms to eliminate 'waste' in the system and improve efficiency and responsiveness. Significant changes include closure of ERs, urgent care facilities and clinics, service cuts at hospitals, layoffs and repealing provincial health insurance for international students. This study provides an overview of the changes, the probable impacts on patients and the positions taken by the key pressure groups.

Approach: News releases and key reports of the ministry and regional health authorities, provincial budget, relevant media articles and news, the evolution of provincial healthcare system were studied. Special attention was given to the two consulting reports based on which the policy reform decisions were taken. The new organization named 'Shared Health' was created to co-ordinate healthcare services in the province as per the recommendations of the reports.

Results: Manitoba's healthcare system and governance model seemed overly complex considering the size of the province, therefore a reform was must. However, many changes in a short time such as creation of a new organization, closure and cuts in front-line healthcare services created a chaotic environment and confusions all around. Many argue that the focus was more on 'cost savings', not considering the current and future health of Manitobans. The topics considered for analysis are:

- Why the reforms were necessary and what was wrong in the past system
- The changes and expected savings
- Impacts on the healthcare access, resource supply and demand in the delivery system
- The opinions of key pressure groups and media actors as the government implements the reform agenda

Conclusion: While the Government initiatives in reducing bureaucracy and improving efficiency in the system was a timely step, many believe that the process has been rushed. The excessive overtime hours worked by nurses raises big concern. Patients won't have the same healthcare access as before which can impact their health.

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Title: Three ways of “Managing Fatigue”: Increasing access by expanding the options for delivery of an effective self-management intervention

Type of Abstract: Poster Presentation

Background and Objectives: Fatigue is one of the most common and disabling symptoms associated with chronic conditions including multiple sclerosis (MS), brain injury, and cancer. It impacts employment, family and mental health. The widely used ‘Managing Fatigue’ intervention, delivered by occupational therapists, effectively reduces fatigue impact using one-to-one, online, and teleconference formats. However, the comparative effectiveness and non-inferiority of formats is unknown, limiting adoption of multiple options that would increase access to the intervention.

Approach: This PCORI-funded study seeks to determine whether delivery using teleconference, online, and one-to-one formats are equally effective in improving physical, mental, and social function, and whether demographic characteristics can or should be used to further tailor the intervention. The three-arm, non-inferiority randomized control trial (n~610), is comparing the three methods of delivery for adults with MS fatigue. The online delivery arm of the trial is being led by researchers in Nova Scotia. This paper will describe the study protocol, focusing on development of the online self-management intervention. Lessons learned during pilot testing will be presented.

Results: Adaptation for online delivery of a therapist facilitated group intervention poses technical, security, and therapeutic challenges. Prevalence of phone apps and wearable technology now set high expectations for easy navigation, responsiveness and usability of technology. Mimicking a therapeutic environment online requires ingenuity; strategies to build self-efficacy, such as competence mastery and peer modeling, must be deliberately and carefully planned. Therapist training is needed to translate face-to-face group facilitation competencies to the online environment. Lessons learned will be relevant to practitioners and policy makers considering ways to increase access to chronic disease management interventions for people who cannot access them due to employment demands, mobility, transportation, or geographic barriers.

Conclusion: This study will provide evidence for patients and healthcare providers on how to choose from the alternative delivery methods available for people with fatigue secondary to MS and other chronic conditions. Knowledge of implementation strategies to successfully provide new opportunities to deliver chronic disease management will be learned.

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Title: Using the Taxonomy of Everyday Self-Management Strategies (TEDSS) Framework to guide quality improvement in chronic disease management in Nova Scotia.

Type of Abstract: Poster Presentation

Background and Objectives: Collaborative and Chronic Disease Management teams in Nova Scotia are increasing access to care and support for patient self-management. With 90% of chronic disease management done at home, by patients, self-management support is an established component of quality chronic disease management. Despite this, assessing and planning for self-management needs is fragmented and often ad hoc. We show how a patient-oriented framework is influencing program /practice and system-level changes to meet self-management support.

Approach: The TEDSS framework, developed from the literature and validated with qualitative accounts of 117 adults with neurological conditions, categorizes self-management strategies used by clients into seven domains and 25 subdomains. Teams in Nova Scotia have begun using the TEDSS as a framework for quality improvement and planning. The depth and breadth of services being delivered are measured against TEDSS, identifying gaps in service and pinpointing professional development needs of the teams. Development of a patient-reported outcome measure to assist teams deliver care is also underway.

Results: To date, 4 chronic disease, 3 primary collaborative practices and 4 primary care networks are participating. The TEDSS framework enables teams to measure and reflect on the current self-management support provided to clients. Teams report that the framework identifies areas of strength and gaps in care delivery, enhances communication within the team, identifies interdisciplinary professional development needs, and illustrates how members of the team contribute to overall care. Use of a common framework across teams helps to plan team composition and resources needed to meet the needs of specific patient populations, especially those with multiple chronic conditions and complex needs.

Conclusion: Used for planning, the TEDSS framework helps transcend the profession-specific lens of team members by focusing quality improvement on the collaboration of team to meet patient needs. It provides information to improve team communication and function, and data to guide planning for team member roles, scope of practice, and composition.

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ID: 283

Author: Andrea Perna

Title: Assessing the Feasibility of a Navigation Intervention in Two Types of Primary Care Practices

Type of Abstract: Poster Presentation

Background and Objectives: Despite the breadth of available community-based health and social resources, gaps in access to these resources remain. Notably, individuals with complex social barriers are limited in their ability to access services when they need them. A patient-centered navigation model may help to improve equitable Access to Resources in the Community (ARC) for primary care patients. The model was co-developed by researchers in partnership with regional health planners, primary and community care providers and patient representatives.

Approach: We introduced the ARC navigation model in two types of primary care practices: an interprofessional Family Health Team (FHT) and a non-interprofessional Family Health Organization (FHO). Providers completed a standardized referral form with their patients to identify needs for health-enabling resources. Referrals were faxed to the ARC navigator who then helped the patient overcome barriers to accessing the appropriate community resource and reported back to the provider. The ARC navigator was at the practice weekly to meet with patients and consult with providers. We surveyed providers about their experience with the ARC model at the end of their participation.

Results: 22 FHT providers and 13 FHO providers consented to participate. FHO providers completed 101 referrals, whereas FHT providers completed only 30. Of those surveyed at the end of the study (8 FHT and 10 FHO), 8 FHO and only 5 FHT providers said they were interested “a great deal/quite a lot” in continuing to use the intervention. The implementation of the ARC navigation model was perceived to be smoother among FHO providers (7) compared to FHT providers (2), and the services offered by the navigator met the expectations of more FHO providers (9) compared to FHT providers (4). Finally, more FHO providers (6) thought that the ARC navigation model improved their patients’ access to care “a great deal/quite a lot” compared to FHT providers (1).

Conclusion: Our findings indicate that the ARC navigation model may be more acceptable in non-interprofessional practices, perhaps because they do not have access to a multidisciplinary team that would enable more comprehensive care. A randomized controlled trial is underway to test the ARC navigation model more rigorously and across different settings.

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Author: David Persaud

Title: A Dynamic Capability for Enhancing Innovation, Adaptation and Sustainability of Healthcare Organizations: The ELIAS Framework

Type of Abstract: Poster Presentation

Background and Objectives: The sustainability of health care organizations is enhanced by the utilization of innovations. These innovations can be developed within organizations or accessed through knowledge transfer or both. An organization that actively practices organizational learning and the utilization of dynamic capabilities has been shown to enhance ongoing innovation, adaptation, and sustainability. Therefore, the objective of this study was to determine the factors that can be used to enhance organizational learning, innovation, adaptation, and ultimately

Approach: A literature review was conducted. The databases Pubmed, Business Source Complete, Academic Search Premier, CINAHL, and PsycINFO were searched for articles published in the English language since 2000 onward. These databases were searched using combinations of keywords such as “accountability”, “learning”, “sustainability”, “innovation”, “outcome”, “change”, “implement”, “dynamic capability”, “institutionalization”, “routinization”, “knowledge”, “diffusion”, “culture”, “complex adaptive”, “adaptation”, “performance”, “evaluation”, “improvement”, “resistance”, and “measurement. A snowballing strategy was also employed by searching the reference sections of reviews and theoretical papers identified in the search. In addition, contemporary frameworks based on learning, adaptation, innovation, and sustainability within health care organizations were

Results: An integrated framework of performance driven change and innovation emerged from the analysis. The framework is called the Enhancing, Learning, Innovation, Adaptation, and Sustainability framework (ELIAS). This framework is considered a dynamic capability because it allows a healthcare organization to make internal changes that allow it to adapt to changing environments thereby remaining sustainable. The ELIAS framework represents a seamless integration of performance measurement; the disconfirmation of outmoded mental models; the contextualization of solutions; their implementation, and routinization. An integral aspect of the development and utilization of the ELIAS framework is the presence of a dynamic learning culture. Such a culture reinforces accountability, continuous improvement, assessment of mental models, organization learning mechanisms, shared leadership, measurement, contextualization, and a psychologically safe environment.

Conclusion: The existence of a dynamic learning culture enhances the development of dynamic capabilities such as the ELIAS framework. The utilization of this framework enhances the chances of a healthcare organization being able to innovate, adapt, and remain sustainable; thereby allowing it to better serve its community’s changing needs.

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Author: Wanda Phillips-Beck

Title: Our People, Our Health: Envisioning Improved Primary Healthcare in Manitoba First Nation communities.

Type of Abstract: Poster Presentation

Background and Objectives: Understanding that self-determination is essential to improving the state of health of First Nations peoples in Canada and supporting communities' priorities are critical for primary healthcare transformation. The purpose of this study was to learn how existing strengths in First Nations communities that can be leveraged to improve community-based primary healthcare in FN Communities in Manitoba. We asked participants to envision optimal healthcare systems that would be innovative and transformative.

Approach: This qualitative study is one five within a larger program of research titled Innovation Transforming Community-based Primary Healthcare (CBPHC) in First Nation and rural/remote communities of Manitoba, a partnership between the University of Manitoba, the First Nation Health and Social Secretariat of Manitoba and 8 Manitoba FN's. We used a community-based participatory approach to engage 8 First Nations communities and questions were co-developed by university-based researchers, Nanaandawewiwgamig and community partners. 183 interviews were conducted by community-based local research assistants. Data was collaboratively analyzed through process involving community partners.

Results: Key themes emerged to transform community-based primary healthcare: primary prevention focused on health determinants affecting various communities (housing, water, employment, education), wholistic traditional healthcare, expanded services to meet specific needs as identified by communities, infrastructure improvement, continuity of care, investing in community-based human resources, investing in traditional health knowledge and land based activities, support for ongoing culturally based quality assessments and improvement, increased mental health services including appropriate addictions counselling. Specific roles were identified at four levels: individual, community, local leadership and government.

Conclusion: Optimal community-based primary healthcare would place people and community at the center of care as leaders; strategies would be culturally respectful, responsive, geographically sensitive, and outcome-oriented. This could be achieved by acknowledging and supporting local health priorities rather than imposing contextually irrelevant and top down solutions.

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Author: Donna Plett

Title: Patient-Researcher Partnerships: Evaluating the Impact of an Online Module Featuring Video Narratives of Partnership Experiences

Type of Abstract: Poster Presentation

Background and Objectives: The conduct of patient-oriented research requires pragmatic support for successful partnerships amongst providers, researchers, and patients. A multidisciplinary team funded by the Ontario SPOR Support Unit is co-designing an online module featuring video narratives from patients' and researchers' stories of partnership so that others can learn from their experiences. This presentation will focus on the evaluation plan to better understand users' perspectives of the value and impact of learning from this type of resource.

Approach: The evaluation will employ a mixed methods approach. We will hold 3 focus groups of 4-6 patients and researchers with experience of research partnerships to: assess attitudes and experience with online learning (modified e-HIQ); identify learning needs and interests; and review the content and navigation of the online training module. Participants will explore the module at home for 2 weeks; a follow-up survey will capture the perceived value of the resource, impact on partnership expectations and behavior, and suggestions for improvement. Web access and utilization data will be collected for 3 months following the public launch of the module.

Results: Given the limited evaluation evidence to date regarding the perceived value and impact of training and resource materials that aim to support patient-researcher partnerships in research, we anticipate that the results will provide insights in several areas: 1) identification of patients' and researchers' learning needs related to the creation and sustainability of partnerships across the different phases of the research life cycle; 2) patients' and researchers' perceptions of the value and impact of learning from a diverse sample of others' lived experiences of partnership in their own voices; 3) users' perspectives on the content, design and navigation of an evidence-based online resource that was co-designed with patients and researchers.

Conclusion: The number of training resources to support patient-researcher partnerships is rapidly growing, yet few feature a diverse range of experiences using video narratives that are available online. This evaluation will contribute evidence of users' perspectives on the value of such a resource, and future learning needs for successful partnerships.

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Author: Jeff Proulx

Title: Prescribed drug spending in Canada, 2018: a focus on public drug programs

Type of Abstract: Poster Presentation

Background and Objectives: This report provides an in-depth look at public drug program spending in Canada in 2017. It looks at the types of drugs accounting for the majority of spending, broken down by sex, age and neighbourhood income. It also examines how different drug classes contribute to observed trends in public drug program spending in Canada.

Approach: This report provides an in-depth look at public drug program spending in 2017 using drug claims data submitted to CIHI's NPDUIS by all provinces, including Quebec for the first time, Yukon, plus 1 federal program administered by the First Nations and Inuit Health Branch at Indigenous Services Canada.

Included in the analysis are the types of drugs accounting for the majority of spending, broken down by sex, age and neighbourhood income. It also examines how different drug classes and types (e.g. generic drugs, high-cost drugs and cancer drugs) contribute to observed trends in public drug program spending in Canada.

Results: Public drug program spending increased by 4.6% in 2017 and accounts for 41.8% of prescribed drug spending in Canada. Antivirals and antineovascularization agents were the top 2 contributors to growth in spending. Anti-TNF drugs (8.2%) and antivirals (5.0%) accounted for the two highest proportions of public drug program spending.

About 1 in 4 Canadians (22.7%) received benefits from a public drug program in 2017. Public drug program spending per paid beneficiary was higher among those in low-income neighbourhoods but was lower among those living in rural/remote neighbourhoods.

The proportion of public drug program spending on high-cost individuals continues to rise. In 2017, the 2.3% of individuals for whom a drug program paid \$10,000 or more accounted for more than one-third of spending (36.6%).

Conclusion: Drug spending is increasing more than the other major areas of health spending — with a large proportion of drug spending going toward high-cost drugs for a small number of individuals. Examining recent trends in drug spending is helpful as Canada contemplates policies like international trade agreements and national pharmacare.

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Author: Alexandra Ralling

Title: Female and Male Veterans and Canadians: A Sex-Disaggregated Comparison of Well-being

Type of Abstract: Poster Presentation

Background and Objectives: While there is a growing body of literature on Canadian veterans, sex- and gender-based analysis of this population is limited. Differences between females and male veterans have been identified. However, comparisons have not been made to the Canadian general population (CGP). This study explores whether these differences are consistent with differences in the CGP.

Approach: Data on veterans were analyzed from the 2013 Life After Service Survey, a nationally representative survey of 3,727 recently released (1998-2012) Canadian Armed Forces veterans. Veterans were compared to the CGP using age-sex adjusted rates and confidence intervals from the 2011-2012 Canadian Community Health Survey (CCHS), the 2013-2014 CCHS, and the 2013 Labour Force Survey. Indicators for comparison are aligned with VAC's surveillance framework, and include indicators from five of the seven domains of well-being.

Results: Recently released Veterans and the CGP share many well-being characteristics; however, findings demonstrate notable differences between Veterans and the CGP. Specifically, regular force and reserve force class C Veterans, both male and female, were more likely than the CGP to: (1) perceive their health and mental health as fair or poor; (2) experience an activity limitation and need help because of an activity limitation; (3) report chronic pain, arthritis, and back problems; (4) report a mood disorder or any mental health condition; and (5) report high school graduation as their highest level of education. Both female veterans and Canadians were more likely to require help and experience an activity limitation compared to their male counterparts.

Conclusion: These findings highlight differences that are essential to understanding the needs of the veteran population and how sex and gender may interact to produce these differences. Due to the limited number of females surveyed, further research needs to examine the feasibility of collecting larger datasets of female veterans.

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Author: Michael Reid

Title: Moving Beyond "Where": A comparison of communities with poor case-mix adjusted health outcomes in Nova Scotia.

Type of Abstract: Poster Presentation

Background and Objectives: There is a growing body of research highlighting high levels of community variation in case-mix adjusted health outcomes across Nova Scotia. A number of communities that consistently display poor health outcomes when compared to the rest of the province have been identified. The objective of this study is to develop and compare preliminary profiles of these identified communities to assess similarities and difference between them with respect to social and economic community attributes.

Approach: Our hypothesis was that while there will be some similarities between the Nova Scotian communities that display poor health outcomes when compared to the rest of the province, for the most part our profiles will indicate that there is considerable heterogeneity between those communities. To test this hypothesis, we used 2016 census data to develop and compare profiles for nine Nova Scotian communities that have poor case-mix adjusted health outcomes of unplanned repeat hospitalizations, high-cost healthcare use, and long lengths of stay. Census variables extracted included variables related to housing, education, income, marital status, family characteristics, language, citizenship,

Results: Communities that consistently display poor health outcomes when compared to the rest of the province tend to be clustered geographically and have similar average household sizes. Our profiles also show less than five percent total variation between the communities in terms of - percentage of unemployed people, percentage of people with and without Canadian citizenship and people who are living common law, separated, divorced or widowed. However, the profiles also highlight areas of heterogeneity between communities. Variation in the variables examining housing, workforce, education, language spoken and certain categories of dwelling is high. In these categories total variation between the selected communities is at least ten percent and in some cases as high as thirty-two percent.

Conclusion: Our community profiles showed that there is considerable variation between the social and economic attributes of Nova Scotian Communities that consistently display poor health outcomes when compared to the rest of the province. This information will guide future research into understanding what is happening "on the ground" in these communities.

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Author: Emily Rhodes

Title: Have Prescription Monitoring Programs Impacted Opioid-Related Harms and Consequences?

Type of Abstract: Poster Presentation

Background and Objectives: In order to address the opioid crisis in North America many regions have adopted preventative strategies, such as prescription monitoring programs (PMPs). PMPs aim to certify opioids are prescribed in appropriate quantities and only when necessary. Significant resources are directed to PMPs on an ongoing basis and there is a need to determine their effectiveness. We aimed to synthesize the literature on changes in opioid-related harms and consequences, an important measure of PMP effectiveness.

Approach: We conducted a standard systematic review. We narratively synthesized PMP implementation and opioid-related harms and consequences outcomes. We included full published reports of primary study data, in all languages, as well as data on any jurisdiction or level that had implemented a PMP as the main population of interest. Outcomes were grouped into categories by theme: opioid dependence, opioid-related care outcomes, opioid-related adverse events, and opioid-related legal and crime outcomes. Potential risk of bias of each selected study was assessed using the QUIPS tool. All data extraction was performed using Covidence, data analysis with Excel 2016 and Stata 15.

Results: We included a total of 22 studies in our review. Two studies reported on illicit and problematic use but found no significant associations with PMP status. Eight studies examined the association between opioid-related care outcomes and PMP status. Of which, two found that treatment admissions for prescriptions opioids were lower in PMP states ($p < 0.05$). Of the thirteen studies that reported on opioid-related adverse events, two found significant ($p < 0.001$ and $p < 0.05$) but conflicting results with one finding a decrease in opioid-related overdose deaths post PMP implementation and the other an increase. Lastly, two studies found no significant association between PMP status and opioid-related legal and crime outcomes (crime rates, identification of potential dealers, and diversion).

Conclusion: Our study found no strong evidence to strongly support overall associations between PMPs and opioid-related consequences and harms. However, this should not detract from the value of PMPs as a piece of the larger harm reduction strategy.

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Author: Charlotte Riordon

Title: Bridging the gap between public health systems and policymakers: A rapid review of the impact of public health reform on population health outcomes.

Type of Abstract: Poster Presentation

Background and Objectives: Public health systems in Canada have experienced numerous structural changes in recent years, however there has been little emphasis on the specific health outcomes affected by these changes. Public Health Systems and Services Research (PHSSR) examines the organization, financing, and delivery of public health services within communities and their impact on health. The research question for this review was: how does the restructuring of public health systems impact population health outcomes?

Approach: A rapid review was conducted of literature published between 2010 and 2018. Initial searches focused on Canadian literature, but due to a significant lack of Canadian research in this area, the search was expanded to include research conducted outside of Canada. Following the screening of 234 texts and hand-searching of reference lists, a total of seven articles (2 systematic reviews, 1 case control study, 3 cohort studies and 1 scoping review) were included for critical appraisal. Tables were used to extract relevant data from each text. Data synthesis was conducted to determine the overall conclusions of the included research.

Results: Overall, the evidence investigating public health reform in Canada is extremely limited. The available international research was examined to produce recommendations for Canadian policymakers and decision-makers. Through data synthesis, three themes emerged from the literature: public health spending, public health system organization, and health equity. Existing literature suggests that spending more money on public health leads to improvements in some areas of population health (e.g., cardiovascular disease and infectious disease morbidity). Factors such as increased staffing per capita and financial resources are associated with better population health outcomes. Finally, the evidence suggests inconclusive or negative impacts on health equity due to health care system reforms. The current research provides a starting point for further discussions and collaborations between researchers, healthcare workers, and policymakers.

Conclusion: The lack of evidence focused on understanding the impact of public health reform on population health outcomes in Canada is a concern. Investment in baseline PHSSR data collection and robust knowledge translation plans will be steps toward building better health for all.

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Author: Terri Roberts

Title: The Pink Dumbbell Problem

Type of Abstract: Poster Presentation

Background and Objectives: The researcher of this study is both a professional fitness instructor and a graduate student in the Master of Arts in Women & Gender Studies at Mount St. Vincent University. The exercise industry, and specifically exercise educators (aerobics instructors, personal trainers, etc) are very rarely studied, especially in Canada. The goal of this study is to bring exercise educators into the feminist & agnotological academic world.

Approach: This study is the first of its kind, anywhere. Exercise educators have a great deal of knowledge and insight into human behavior. Focus groups of these educators will reveal ways in which exercise pedagogy is fighting against the problems of physical inactivity among Canadian women. Trainers are being fought at every turn with de-bunked, anti-science ideas about women and exercise. This project is setting the ground work for more study of this phenomenon and how to correct it.

Results: This study is in its early stages now. The results to be presented at this conference in May will be preliminary, but very interesting considering this is the first study of its kind anywhere in the world. The anticipated impact of this research is multi-fold. Firstly, trainers will have official documentation of the Pink Dumbbell Problem, which is often ignored & dismissed by non-trainers. Secondly, we will have a collection of best practices of trainer pedagogy to work from in dealing with the PDP. And thirdly, the hope is that this will give all health practitioners a tool for myth-busting, and therefore convince more women they can workout better.

Conclusion: The Pink Dumbbell Problem is an on-going and persistent irritation for exercise educators. The terribly low rates of exercise among Canadian women is a result of these myths flourishing as so-called "common knowledge" about exercise. This study is the start of fixing this problem.

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Author: Caitlin Robertson

Title: New Brunswick physicians' perspectives toward medical assistance in dying (MAiD)

Type of Abstract: Poster Presentation

Background and Objectives: With the addition of medical assistance in dying (MAiD) to Canadian law in 2016, came many challenges to patients and providers. Since physicians and NPs are the professions able to provide MAiD, it is imperative to understand their perspective. In New Brunswick, only physicians are currently providing MAiD within the two regional health authorities. The purpose of this research is to understand what is shaping the perspectives of New Brunswick physicians toward MAiD.

Approach: We will be conducting semi-structured one-on-one interviews with New Brunswick physicians. We will be following a Straussian Grounded Theory approach to data collection and analysis to understand the social structures in place shaping their opinions on this topic. As such, the interview questions may potentially change over the course of the interviews. A snowball sampling approach will be used to recruit participants; we intend to have a purposive sample with half of the sample in support of MAiD, and half in opposition. We will continue data collection until a sufficiency of information is observed.

Results: Although data collection is not complete, it is anticipated that we will gain a rich understanding of what is shaping the views of New Brunswick physicians towards this important topic. This research has the potential to inform future studies on this topic.

Conclusion: With the new law on medical assistance in dying, it is essential to understand the views of the practitioners legally allowed to provide this service; in New Brunswick, this is primarily physicians. Understanding these perspectives would be important in shaping further policies and regulations.

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Author: Matthew Russell

Title: Health service use, workforce participation, and community engagement for families with children at early risk for developmental delay in the All Our Families pregnancy cohort.

Type of Abstract: Poster Presentation

Background and Objectives: Children with neurodevelopmental disorders often have increased health service use and their caregivers experience impact on workforce participation and community engagement, with early identification and intervention thought to mitigate these outcomes. In order to facilitate early identification, this study investigates how early risk for a developmental delay, which is associated with neurodevelopmental disorders, relates to health services use of children and caregiver workforce participation and community engagement.

Approach: We used data from the All Our Families study, a prospective pregnancy cohort based in Calgary, Alberta. Exposure (risk of developmental delay) was based scoring at risk on two domains of the Ages and Stages Questionnaire (ASQ) (communication, gross motor, fine motor, problem solving or personal social abilities) when the child was 2. Outcomes were maternal-reports of children's allied health care and physician visits (and estimated costs), and self-reports of the caregiver's workforce participation and community engagement when the child was 3. A sensitivity analysis excluded reports of neurodevelopmental disorder diagnosis when the child was 3.

Results: Among 1314 mother-child pairs, the ASQ identified 209 (16%) children as at risk of developmental delay, and 3% had a reported neurodevelopmental disorder diagnosis. Risk of developmental delay was related to increased physician health care service use, allied health care service use and allied health costs. However, the increased health service use and costs were not observed when excluding children with a reported neurodevelopmental disorder diagnosis by year 3. We did not find a difference in community engagement and workplace participation among families based on risk of developmental delay.

Conclusion: These results provide evidence that neurodevelopmental disorder diagnosis is important to early access to health care services. The findings add to growing discussion on how to identify and support neurodevelopmental disorders in Canada.

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Author: Connie Schumacher

Title: Patient Perceptions of Heart Failure Self-Management and Daily Symptoms

Type of Abstract: Poster Presentation

Background and Objectives: Heart failure is a progressive debilitating disease punctuated by intermittent periods of decompensation. Self-management plays an integral role in prolonging periods between exacerbations. Self-management is a daily responsibility that includes monitoring, interpreting symptom changes, and responding with appropriate actions. Despite education, some patients fail to act on symptom changes or seek timely medical intervention. The purpose was to explore the decision making processes undertaken by community-dwelling individuals with heart failure as they experience

Approach: Semi-structured face-to-face interviews were conducted with 18 homecare patients. Participants were recruited from a Community Care Access Center in Ontario if they had a pre-existing diagnosis of heart failure, experienced an exacerbation with hospitalization in the preceding three months, and had received self-management education. An interview guide was used to focus on self-management, the symptom experience, and response to symptom changes. Interviews were audio recorded and transcribed verbatim, participants were debriefed immediately following interviews. Grounded theory methods of iterative data collection and analysis were used. Open, axial and selective coding were applied with constant comparison between cases.

Results: Self-management was described as a set of tasks; taking medications, weighing themselves, and measuring their abdomen. Two types of symptom changes were represented, escalating exacerbations and daily symptoms. Escalating symptoms were described as severe with heightened emotions. Daily symptoms were described as elusive and approaching a continuous experience. Behaviors that minimized adverse symptoms were described. Consequences of symptom avoidance included reduced physical activity, reduced participation in social activities, and isolation. Consultation with a health professional was not viewed as part of self-management, weight charts and questions were not shared or discussed outside of routine appointments. A few participants described reluctance to seek help as the symptoms were not serious enough to warrant attention, a view reinforced in previous encounters with health providers.

Conclusion: Findings support the need for heart failure education that emphasizes early symptom recognition, provides opportunities to guide symptom interpretation and reinforce appropriate actions. Engaging primary care physicians to develop self-management patient-physician collaboration mechanisms should be pursued. Study findings inform future initiatives to optimize management of heart failure in the community.

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Author: Samantha Singh

Title: Opioid-Related Deaths in Ontario, Canada: Enhancements to the Coroner's Abstracted Data

Type of Abstract: Poster Presentation

Background and Objectives: Post-mortem toxicology results are considered the gold standard for identifying whether a death is opioid-related. In 2016, the Ministry of Health and Long Term Care released the Ontario Opioid Strategy with the intention of improving data collection to support evidence-based policies. In response to this, the Office of the Chief Coroner (OCC) of Ontario implemented a novel abstraction tool, the Opioid Investigative Aid (OIA), to capture consistent, detailed and timely information on opioid-related deaths.

Approach: Previously, coroner's abstracted data, was linked to the data repository at ICES, and included information on manner of death and drug concentrations from post-mortem toxicology for all opioid-related deaths in Ontario. Effective May 2017, the OIA collected additional variables, that were not previously captured, to acquire detailed opioid-related information around demographics (i.e. ethnicity, incarcerations), past drug and medical history, current and/or recent drug use (e.g. drugs found at the scene and/or recently used), and circumstances surrounding the death (e.g. naloxone administration). These new variables captured on the OIA will be included in the annual data transfers to ICES for linkage.

Results: Between May 1, 2017 and December 31, 2017, we identified 930 individuals who died from an opioid-related cause in Ontario, the majority of whom were caucasian (84.7%; n=788), living in private residences (73.5%; n=684), never legally married (49.0%; n=457) and unemployed (46.3%; n=431). About one-third of individuals (35.3%; n=328) had a known past encounter with the criminal justice system (incarceration, custody, or police involvement). Among individuals who died from an opioid-related cause, resuscitation was attempted on about half (54.0%; n=502) and naloxone was administered to a small proportion (n=155; 16.7%). Alcohol was present at approximately one-quarter (n=256; 25.5%) of the scenes related to the death under investigation.

Conclusion: The implementation of the Opioid Investigative Aid provides enhanced information that is not available through other existing databases, and can be used to inform policies and strategies aimed at addressing the ongoing opioid crisis. This information may identify preventable measures to help reduce opioid-related deaths occurring in the province.

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Author: Mélanie Ann Smithman

Title: Scaling-up eConsult in Quebec: what are the main policy issues?

Type of Abstract: Poster Presentation

Background and Objectives: Effective innovations, that could help improve healthcare, often remain unscaled. EConsult—an asynchronous online platform connecting primary care providers and specialists—has been shown to improve access to specialists in Ontario. In Quebec, eConsult is implemented in three regions and planned to be scaled-up provincially. Efforts to scale-up innovations like eConsult at a provincial level must address policy issues. As a first step, we identified the main policy issues of scaling-up eConsult in Quebec.

Approach: We reviewed meeting minutes, reports and presentations from the Quebec eConsult steering committee and observed committee meetings to generate a preliminary list of overarching themes. We compared and completed this list with themes identified in scaling-up efforts in other Canadian provinces (internal documents, scientific literature, and pan-Canadian symposium). We then held a deliberative forum with key stakeholders of eConsult in Quebec (n=10 participants) to discuss each theme in more depth and determine its relevance to the Quebec context. We conducted thematic analysis of the deliberative forum discussions to identify the main policy issues of scaling-up eConsult in Quebec.

Results: We identified 6 main policy issues for the scale-up of eConsult in Quebec : 1) establishing remuneration of both primary care providers and specialists for doing an eConsult and following up with patients; 2) developing information technology infrastructures to support eConsult at a large scale; 3) integrating eConsult with other innovations related to eHealth, access to specialists and interdisciplinary teams (e.g. electronic medical records, standardized referrals to specialists, use by allied health professionals); 4) transitioning governance from provider-led structures of regional pilot projects to government-led provincial structures; 5) including eConsult as a formally recognized tool for continuing medical education; 6) managing change at a large-scale (e.g. developing best practices guidelines, monitoring, balancing primary care provider enthusiasm with careful scale-up efforts).

Conclusion: EConsult has the potential to improve the delivery of care by specialists and primary care providers. However, many policy issues need to be considered to allow the successful scale-up of eConsult at the provincial level. Future research should explore promising strategies to address these policy issues.

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ID: 454

Author: Mélanie Ann Smithman

Title: Does attaching patients to a family physician improve access to primary care?

Type of Abstract: Poster Presentation

Background and Objectives: Unattached patients—those without a family physician—face barriers accessing primary care. Formally attaching patients to a family physician is a common feature of patient-centered medical homes in many jurisdictions, including Quebec—where centralized waiting lists help attach patients to physicians. Yet, little is known about the effects of formal attachment on access to primary care. We assess the effects of attachment to a family physician through centralized waiting lists on access to primary care.

Approach: We are conducting an observational cohort study of all patients attached to a family physician through Quebec's centralized waiting lists between 2012 and 2014 (n=459 903 patients). Our analysis is based on administrative billing data from the Régie d'Assurance Maladie du Québec. We have utilisation data two years before attachment and at least one year after attachment. Primary care utilisation (number of primary care visits) is used as a proxy for "realized access" to primary care. We will conduct t-tests and multilevel regression analysis (patients nested within attached family physician) controlling for age, sex, and comorbidity (Charlson Comorbidity Index).

Results: Preliminary results – Patients who were attached to a family physician through centralized waiting lists in Quebec were an average of 40.1 years old, 51.8% were women and 40% were considered medically vulnerable (i.e. had at least one health condition such as hypertension, diabetes, cancer, etc.). Unattached patients had an average of 2.22 visits in the year before attached to a family physician; this increased to 2.94 in the year after attachment ($p < 0.001$). Provincially, this represents an additional 72 860 primary care visits per 100 000 population, yearly. Anticipated results - We will also present the results of multilevel regression analyses currently in progress.

Conclusion: Our analysis provides an assessment of the effects of attachment on access to primary care. The results may be useful for policy-makers in jurisdictions with formal attachment or considering the implementation of formal attachment. Future research should seek a more in depth understanding of the effects of attachment.

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Author: Nadia Sourial

Title: Using a qualitative approach to verifying quantitative assumptions for causal inference: An application in primary health policy evaluation

Type of Abstract: Poster Presentation

Background and Objectives: Three theoretical conditions (consistency, positivity and exchangeability) are required to make valid causal claims. However, there is little specificity on how to rigorously assess these conditions. This study compares a “usual” vs qualitative approach to assess these conditions in the context of an evaluation of Family Health Teams (FHTs) in Ontario.

Approach: The “usual” approach was based on knowledge obtained from the literature and colleagues/experts. The qualitative approach was based on semi-structured interviews and a focus group with patients, clinicians, researchers and managers. A snowball technique was used to select participants. Eighteen (18) semi-structured interviews with patients, clinicians, researchers and managers knowledgeable about FHTs as well as one focus group with 14 staff members and managers from the local health integrated network and Alzheimer Society were conducted. A summative content analysis of the transcribed interviews was conducted. Information on causal conditions obtained from the “usual” vs qualitative approach were compared.

Results: While a substantial amount of information was obtained through the “usual” approach, assessment of the plausibility of the causal conditions remained vague or incomplete. A higher degree of precision and detail was attained through the qualitative approach. For consistency, we found additional evidence of heterogeneity in the implementation and functioning of FHTs as well as changes over time, confirming the need to consider multiple versions of the exposure in the causal evaluation. For positivity, we clarified the selection criteria applied in determining allocation into the FHT exposure group and found no apparent violations to this condition. For exchangeability, we uncovered additional potential confounders and predictors of the outcome from the qualitative interviews which will enable a more accurate and precise evaluation of FHTs.

Conclusion: This study demonstrated a novel approach to verifying assumptions for causal inference using qualitative methods, expanding the scope and potential of mixed methods. Results demonstrated how qualitative methods can be used to better inform and strengthen quantitative analyses, specifically for the evaluation of health policies using the causal inference framework.

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Title: Primary health care innovations designed to integrate with other community-based services: Examining implementation factors and degree of integration for a selected set of Canadian innovations

Type of Abstract: Poster Presentation

Background and Objectives: In this step of our multi-phase SPOR-PHICI comparative program/policy analysis, we examine a selected set of publicly-funded Canadian primary health care (PHC) innovations designed to integrate with services offered by other organizations in the community. More specifically, our objective was to document and analyze the implementation factors and degree of integration success of service models that permit providers to coordinate complementary services and exchange information/resources to enhance quality care for complex patients.

Approach: In a previous phase, our team compiled a list of 32 eligible innovations across 10 provinces. Informed by Suter et al.'s (2007) Principles of Successful Health Systems Integration and Damschroder's (2009) Consolidated Framework for Implementation Research, we developed a data collection template focused on selected implementation factors identified as central to integration success. Drawing from grey/published literature, government websites, and key informant interviews, we gathered the following information for each service: (i) program overview, context, history, goals, design, and trialability, (ii) patient focus, (iii) information systems, (iv) financial management, (v) performance management, (vi) governance structure, and (vii) policy instruments.

Results: Data collection and analysis is still in progress. Building on the Canadian Health Services Research Foundation's work (Hutchison & Roy, 2010) that documented a selection of PHC innovations across Canada as of 2010, we will update the landscape focusing specifically on selected PHC innovations designed to integrate with other services, and provide a more granular analysis of implementation factors linked to integration success with the most promising innovations likely to (i) be designed with regional focus and around population-based need; (ii) display fit with partnering organizations in terms of aligned goals and complementary services; (iii) have formalized agreements/processes/mechanisms in place to communicate information, share resources, and work collaboratively across organizations; and (iv) have evolved a framework of evaluation, performance management, and accountability.

Conclusion: Quality care for complex patients is facilitated by integration of PHC with other community-based services. This cross-provincial analysis of PHC innovations designed to deliver patient-level integration is a step toward the development of a mechanism for sharing knowledge across jurisdictions, thereby helping create conditions that encourage the spread of innovation.

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Title: Examining Experiences of Home Healthcare Nurses about Deprescribing of Medications for Older Adults in the Community

Type of Abstract: Poster Presentation

Background and Objectives: Objectives: The aim of this study is to explore the barriers and enablers of deprescribing from the perspectives of home care nurses, as well as to conduct a scalability assessment of an educational plan to address the learning needs of home care nurses about deprescribing.

Approach: Methods: This study employed an exploratory qualitative descriptive research design, using scalability assessment from two focus groups with a total of eleven home care nurses in Ontario, Canada. Thematic analysis was used to derive themes about home care nurse's perspectives about barriers and enablers of deprescribing, as well as learning needs in relation to deprescribing approaches.

Results: Results: Home care nurse's identified challenges for managing polypharmacy in older adults in home care settings, including a lack of open communication and inconsistent medication reconciliation practices. Additionally, inadequate partnership and ineffective collaboration between inter-professional healthcare providers were identified as major barriers to safe deprescribing. Further, home care nurses highlighted the importance of raising awareness about deprescribing in the community, and they emphasized the need for a consistent and standardized approach in educating healthcare providers, informal caregivers, and older adults about the best practices of safe deprescribing.

Conclusion: Conclusion: Targeted deprescribing approaches are important in home care for optimizing medication management and reducing polypharmacy in older adults. Nurses in home care play a vital role in medication management and, therefore, educational programs must be developed to support their awareness and understanding of deprescribing. Study findings

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Author: Matthew Tersigni

Title: Understanding the Experiences of Health Professional End-users Post Electronic Order Entry Implementation— A Pilot Study

Type of Abstract: Poster Presentation

Background and Objectives: Little work has been done to understand the subjective experiences of health care providers after system level changes have been implemented. The means by which quality improvement initiatives are implemented have profound impacts on the way end-users such as physicians and midwives deliver care. As Canada's health system moves towards fully electronic order sets, which challenge traditional workflow and practice, it is important to listen to and understand the experiences of end-users.

Approach: The Women's Health program at Trillium Health partners was identified as having the highest adoption rate of electronic order entry 6 months post-implementation. To understand the experiences of health professionals, semi-structured interviews were completed. 3 physicians and 3 midwives were interviewed. Interviews focused on evaluating the beliefs and perspectives during the three phases of transition: (1) Initial reactions to the introduction to the new system (2) Training (3) Implementation and current workflow. Participants were notified of the opportunity through an email invitation. All interview transcripts were anonymized and analyzed using a phenomenological approach and NVIVO software for thematic analysis.

Results: Initial reactions by physicians highlighted the short-comings of electronic order set implementation. Physicians describe initiatives being started prior to essential infrastructure being put in place. Logistical barriers such as the availability of computers and printers were felt most by physicians rather than midwives. Positive experiences were facilitated by intensive transition efforts such as training sessions, and self-learning modules. End-users were appreciative of the different means by which training was offered such as the availability of one-on-one sessions, and super-user support. Physicians felt their workflow was negatively affected and consequently threatened patient safety. While midwives' felt their workflow was less affected, they also felt patient safety was at risk due to physician barriers.

Conclusion: Future quality improvement efforts would be wise to first consult end-users to determine logistical barriers that must be overcome. Despite few participants, preliminary results suggest that the implementation of order sets was well tolerated. Further work must be done in different departments, especially those with lower adoption rates.

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Author: Darene Toal-Sullivan

Title: The Use of Narratives to Inform and Guide an Innovative Primary Health Care Intervention

Type of Abstract: Poster Presentation

Background and Objectives: Narratives have been integral to health care in training, understanding patients' experience, and sharing information among practitioners. These stories are a means to learn from others, reflect on practice, and work on the complex issues of patient care. Narrative takes many forms including case studies, patient accounts, reflective writing, and dialogue. We report on the use of narratives to inform the development and implementation of the Access Resources in the Community (ARC) navigation model.

Approach: The ARC intervention introduced a non-clinical patient navigation model in family medicine practices to help patients overcome barriers to access community-based primary health care resources (CBPHC) to achieve their health goals. Narratives were used in each phase of the ARC intervention: development, implementation, evaluation, and sustainability. Narrative forms were chosen to align with the audience, context, goals of each phase and desired outcomes including gathering information about patient access to PHC, enhancing understanding about vulnerable populations, communicating intervention activities, and disseminating scientific results.

Results: Interviews and focus groups with patients, primary care providers, and community service organizations helped us understand their lived experience with access to PHC and informed the development of a patient-centred navigation model. Patient stories, role play, and dialogue were integral to the training of patient navigators, and revealed their experience and emergent learning needs such as applying motivational interviewing skills. Navigators engaged in reflective writing to explore their knowledge, beliefs and values about vulnerable populations. Collaborative dialogue among advisory committee members, the research team and navigators guided each phase of the intervention. Case descriptions developed from the navigators' practice revealed the interconnectedness of patients' physical health, psychological and social needs, and shaped navigation activities. Patient stories were also essential to facilitate knowledge translation strategies.

Conclusion: Narratives can be used to effectively create a CBPHC innovation, improve implementation, and share knowledge, helping to bridge the gap between research and practice. In the ARC intervention, narratives enabled an understanding of multiple voices, offered insight and shaped future action for patient navigation training and services.

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Author: Joslyn Trowbridge

Title: Assessing Systems Thinking in Four National Public Health Strategies

Type of Abstract: Poster Presentation

Background and Objectives: Researchers increasingly find that “simple, single-cause, single-discipline and single-level-of-analysis models” are “necessary, but insufficient” to explain and solve complex public health problems.[1] As a conceptual framework, systems thinking understands disease causation as “multifactorial, dynamic, and non-linear”[2] and seeks to understand the relationships between a systems’ parts. This project analyzes the extent to which systems thinking is used across four national public health strategies.

Approach: This project uses document analysis and interviews with PHAC staff involved in strategy development to assess the extent of systems thinking in each strategy. A framework developed from systems science literature (primarily Johnson et al.’s Intervention-Level Framework) will be used to assess the strategy document and additional supporting documents. Interviews with those involved in strategy development will elicit additional information on the design process, structural context, and facilitators and barriers. Interviews will be transcribed and analyzed using NVivo software and will be compared to the document assessment to build an analysis of factors contributing to systems thinking approaches.

Results: An analysis of four strategies on obesity, substance use, mental health of Black Canadians, and tuberculosis prevention, all developed by the Public Health Agency of Canada, is underway. Anticipated results will vary according to differences in governance, structural context, design process, and paradigm or theory of change. Greater presence of systems thinking characteristics are expected to be found in newer strategies and those under development due to the recent traction of systems thinking approaches in intervention research and policy and strategy development. This analysis will assess the barriers and facilitators to inclusion of these characteristics in the strategy design process to uncover research and policy analysis environments conducive to systems approaches.

Conclusion: Systems approaches are potentially useful tools for policy makers to design strategies for complex public health problems. This research assesses how and to what extent systems approaches are used in four national strategies. This project is supported by the CIHR Health System Impact Fellowship and Public Health Agency Canada.

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Author: Sarah Turner

Title: Prescription For All: Improving Drug Coverage Through National Pharmacare

Type of Abstract: Poster Presentation

Background and Objectives: Canada's Advisory Council on the Implementation of National Pharmacare is considering how to close gaps in outpatient drug coverage. Five percent of Canadians have no coverage, 10 percent do not fill prescriptions due to cost, and another five percent go without necessities to fill them, resulting in premature deaths plus avoidable, burdensome deterioration in health (Law et al., 2018). Every major study has recommended reform, the last in 2002. Now is the time to act.

Approach: This poster is a visual briefing note addressing the first two questions posed in the Council's white paper: Who should be covered under national pharmacare? and How should national pharmacare be delivered? Incorporating data tables and figures, descriptive bullets, and a decision matrix, it presents an analysis of how three viable national pharmacare options, developed after an extensive review of North American and European drug plans, perform on four criteria--accessibility, portability, health outcomes, and system burden--important to the stakeholders (individual Canadians, health system officials, and health care providers) most likely to react to legislation tabled by the Government.

Results: Three distinct pharmacare plans were evaluated. All would improve upon the status quo. The "Income-Tested Plan," which would cap out-of-pocket expenses at a predefined portion of income as determined by the budget, would be portable and would marginally improve health outcomes by increasing medication adherence but would potentially leave a number of Canadian citizens without drug coverage. The "All Access Canada Plan," which would automatically enroll every Canadian in a plan providing access to a single, national formulary, would improve access and health outcomes and likely reduce financial burden on the system. The "Expanded Access Canada Plan," which would build upon Quebec's twenty-year-old universal public-private drug coverage system by requiring all Canadians to enroll in a public or employer-administered private plan, would also do so.

Conclusion: The "Expanded Access Canada Plan" is recommended because in addition to performing at the highest level on the decision criteria it can be modified to expand or contract the role of employer-sponsored private plans that could offer coverage (for a user fee) for drugs not listed on the public formulary.

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Author: Lynda van Dreumel

Title: Ontario First Nations Health Action Plan: Applying the Consolidated Framework for Implementation Research (CFIR) to Understand Prospects for Successful Implementation

Type of Abstract: Poster Presentation

Background and Objectives: Following release of the Truth and Reconciliation Commission (TRC) Final Report, Indigenous health policy has remained on the government agenda. Past attempts to implement Indigenous health policy reform have posed significant challenges. In 2016, Ontario launched the First Nations Health Action Plan (OFNHAP). This study (1) examined prospects for successful implementation of OFNHAP and (2) considered recommendations to enhance the likelihood of successful implementation of OFNHAP.

Approach: An explanatory single case study was used. Implementation of Jordan's Principle across Canada was selected as a critical case. Policy literature, including documents and position statements from First Nations' stakeholder groups as well as federal and provincial governments were examined. Findings were analyzed in the context of the Consolidated Framework for Implementation Research (CFIR) to understand the interplay among policy, context, and setting; as well as individuals and their influence on the implementation of OFNHAP.

Results: The following contextual factors increase the likelihood of successful OFNHAP implementation: (1) OFNHAP policy directions are highly aligned with Indigenous health paradigms and demonstrate a high potential for local adaptability; (2) Indigenous ways of knowing are acknowledged and prioritized in the policy; (3) high value is placed on First Nations engagement and collaboration; (4) regionalization in Ontario allows for the potential of a more nuanced understanding of local needs and; (5) implementation of Indigenous health policy reform has been legitimized through the TRC.

Conclusion: Application of the CFIR model indicates that engagement with local First Nations' communities to co-design and co-implement health policy is crucial to the success of OFNHAP. Additionally, the formal integration of First Nations' voices into collaborative implementation and evaluation processes will enhance the likelihood of OFNHAP implementation success.

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Title: Conceptual and methodological challenges of studies examining the rationing of nursing care, nurse staffing and patient outcomes: A narrative review of the literature

Type of Abstract: Poster Presentation

Background and Objectives: While most of the studies published since the 1980s investigated the impact of nurse staffing policies on patient outcomes, multiple authors suggested that the omission of nursing care could mediate the association between nurse staffing and outcomes. We aim to contribute to the field by: 1) synthesizing conceptual and methodological challenges of studies examining the associations between nursing staffing, care rationing and patient outcomes, and 2) by identifying future avenues for research.

Approach: A narrative review of the literature was conducted according to the methodological recommendations of Gasparyan, Ayvazyan, Blackmore, and Kitas (2011). Four electronic databases were searched to identify studies examining the effect of staffing on care rationing and patient outcomes (Medline, CINAHL, Health Management Database, and Cochrane Library). The initial search of the literature was performed between August and October 2018 and was last updated in December 2018.

Results: The comprehensive search of the literature yielded 5214 citations. After the removal of duplicates and screening, 47 primary studies and 7 literature reviews met our inclusion criteria. Of the primary studies included, 89.4% (n=42), were based on cross-sectional studies, and over half of studies were conducted in the Northern American hemisphere (55%, n=26). The three most frequently used surveys instruments were the MISSCARE (47%, n=20), followed by the RN4CAST (19%, n=8), and the BERNCA (16%, n=7). The most frequently reported conceptual challenge was the use of self-reported measures (n=29), followed by the multidimensional nature of care rationing (n=21), the use of cross sectional designs (n=20), and that care might have been provided by other professionals or family members (n=11).

Conclusion: Close to 20 years of empirical evidence in that field almost exclusively relies on cross-sectional designs, survey-based instruments, and self-reported staffing and outcomes. It is therefore unsurprising that the most frequently elicited methodological or conceptual challenge associated with the study of this phenomenon is the use of subjective measures. . The use of longitudinal cohort designs might help determine if specific staffing and care rationing thresholds precede the occurrence of adverse events in acute

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Author: Beibei Xiong

Title: Hospice Use Among Long-Term Care Facility Residents in Canada

Type of Abstract: Poster Presentation

Background and Objectives: It is estimated that between 16% and 30% of Canadians who die annually have access to or receive end-of-life care services, many of whom are referred to hospice programs in their last days of life. This study aims to describe and compare the characteristics of residents who received hospice care versus those who did not receive hospice care in their last year of life in long-term care facilities (LTCFs) in Canada.

Methods: This retrospective cohort study used linked health administrative data from the Canadian Continuing Reporting System (CCRS) and the Discharge Abstract Database. Data in CCRS is routinely collected via the interRAI Resident Assessment Instrument Minimum Data (MDS 2.0). All persons residing in LTCFs between Jan. 1st, 2015 and Dec 31st, 2015 were included in this study. Death records were linked up to Dec 31st, 2016. Descriptive and inferential statistics were used to describe and compare the characteristic of residents who received hospice care versus those who did not receive hospice care in their last year of life.

Results: Among the 185,715 residents resided in LTCFs in Canada in 2015, 30.9% died within one year of assessment, and 7.7% of them received hospice care in their last days of life. Residents more likely to receive hospice care in their last year of life were: younger; male; had a do not resuscitate order; lived in urban LTCFs; had diagnosis of cancer, anemia, or gastrointestinal disease; had a diagnosis of dementia, depression, stroke, or congestive heart failure; had less severe aggressive behaviors, lower level of social engagement, more severe physical impairment, more severe pain, higher pressure ulcer risk, and exhibited severe health instability.

Conclusions: Expanding awareness of characteristics of residents who may benefit from hospice care compared to those who actually received hospice care may help LTCFs administrators, hospice care providers, and policy makers to identify ways to implement services and interventions that can improve access, utilization, and quality of hospice care in LTCFs.

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Author: Yuan Xu

Title: Identifying Timing of Recurrence in Breast Cancer Using Administrative Data

Type of Abstract: Poster Presentation

Background and Objectives: In population-based cancer-free survival analyses, researchers are facing the challenge of ascertaining the timing of recurrence. We previously developed a validated algorithm to identify the presence of recurrences; this is a follow-up study to detect the time-frame of these recurrences.

Approach: We used a cohort from a prior chart review that consisted of all young (≤ 40 years) breast cancer patients (2007-2010) and all neoadjuvant chemotherapy patients (2012-2014) in Alberta. Health events that signified recurrences and their timing were obtained from the routinely collected administrative data. Based on the previously developed algorithms for identifying the presence of recurrence, the timing of the recurrence was further determined by the timing of the indicator event that contributed to the detection of the recurrence. We compared the results of cox regressions models using the estimated recurrences and timing with that of chart review data.

Results: In total, 598 patients were included. 121 (20.2%) had recurrence after a median follow-up of 4 years. Based on the high accuracy algorithm for identifying presence of recurrence (with 85.1% sensitivity, 97.3% specificity, 88.8% PPV, 96.3% NPV and 94.8% accuracy), among the 121 recurrences, the magnitude of difference between the estimated and the actual recurrence dates within 0-15, 16-30, 31-60, 60-90 and >90 days were 28.9%, 14.9%, 19.8%, 9.1% and 27.3%, respectively. The estimated and actual data generated Kaplan-Meier curves are very similar (Log-rank P-value = 0.981). Also, the hazard ratios and the P-values of each independent variables (including age, tumor grade, size, molecular classifications, histology, treatments and year of diagnosis) were similar between the estimated and actual data.

Conclusion: The proposed algorithms for identifying the timing of recurrence achieved favorably high validity, and it is potentially usefully in survival analysis.

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Author: Jean Hai Ein Yong

Title: Cancer burden attributable to 27 risk factors

Type of Abstract: Poster Presentation

Background and Objectives: OncoSim is a Canadian cancer simulation tool that is free to users; they can modify the model inputs to answer specific policy questions. In a recent release, it has expanded its projections from three to 32 cancers, and attributes cancer burden to 27 risk factors. The purpose of this presentation is to introduce OncoSim's new feature on cancer burden and risk factors to analysts and policy makers interested in cancer prevention.

Approach: OncoSim is led and supported by the Canadian Partnership Against Cancer, with model development by Statistics Canada, and is made possible through funding by Health Canada. Combining data from the real world, expert opinion and the published literature, OncoSim projects health and economic outcomes for 32 cancers, and attributes them to 27 risk factors, such as smoking and physical inactivity. It captures the impact of risk factors on cancer burden (incidence, mortality and direct healthcare costs) using Canadian population attributable risk estimates, incidence and survival data from the Canadian Cancer Registry, and costs from retrospective administrative database analyses.

Results: OncoSim estimated that 210,000 new cancer cases would be diagnosed in Canada in 2018. Active smoking was the biggest cancer risk factor, accountable for 38,000 new cancer cases, 25,000 cancer-deaths and \$2.5 billion cancer-related direct healthcare costs. The next largest contributors to cancer burden were physical inactivity and excess body weight (26,000 new cancer cases and 11,000 cancer-deaths).

Conclusion: OncoSim estimates cancer burden (incidence, mortality, and direct healthcare costs) attributable to 27 risk factors by sex, year and province. Future releases will allow users to evaluate the impact of cancer prevention interventions that modify risk factor exposures.

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Author: Jean Hai Ein Yong

Title: The OncoSim-Breast model: reproducing the observed effects of breast cancer screening in a randomized clinical trial

Type of Abstract: Poster Presentation

Background and Objectives: OncoSim is a free, web-based simulation tool that evaluates cancer control strategies. OncoSim-Breast is a new addition to OncoSim's suite of cancer models. Evaluation of breast cancer screening strategies is one of many use cases of OncoSim-Breast. The objective of this study is to replicate the UK Age trial, a well-documented randomized clinical trial of annual breast cancer screening in women age 40-49 in the UK, and to compare OncoSim-Breast's projections with the trial results.

Approach: Combining data from the real world, expert opinion and the published literature, OncoSim-Breast models the natural history and progression of breast cancer. We simulated a cohort of women born in 1950-1957 to match the UK Age trial in two scenarios: (i) no screening; and (ii) annual screening for women age 40-49. In the screening scenario, we calibrated the rescreening rate to the average number of mammograms per woman in the Age trial. For each scenario, we estimated the incidence of breast cancer and breast cancer deaths in women age 40-49.

Results: OncoSim-Breast reproduced the impact of annual breast cancer screening in women age 40-49 on breast cancer incidence and mortality observed in the UK AGE trial. As compared to no screening, OncoSim predicted that annual breast cancer screening in women age 40-49 years would lead to a 23% increase in the detection of invasive cancer and ductal carcinoma in situ, and 10% fewer breast cancer deaths. The estimates were well-within the 95% confidence intervals of the trial estimate, at both 10- and 17-year follow-up.

Conclusion: OncoSim's ability to reproduce observed effects of breast cancer screening in a randomized clinical trial increases the confidence of its model results to inform breast cancer screening-related policy decisions. Efforts are ongoing to externally validate OncoSim's predictions with real-world data, such as the Canadian Breast Cancer Screening Database.

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