A1.1 - A qualitative study of the challenges and opportunities for a novel public health performance measurement system in Canada

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

Presenter: *Meghan O'Neill*

There have been longstanding calls for public health system transformations in Canada, including strengthening performance measurement and accountability. While advancements have been made in performance measurement for certain health sectors (e.g., acute care), effective use of indicators for measuring public health system performance are lacking and have unique considerations. This study describes the current state, anticipated challenges, and future directions in the development and implementation of a public health performance measurement system for Canada.

We conducted a qualitative study using semi-structured interviews with public health leaders (n=9) between July and August 2021. Public health leaders included researchers, government staff, and former medical officers of health who were purposively selected due to their expertise in performance measurement and experience with public health systems in Canada and internationally. Data derived from the interviews were analyzed using descriptive and interpretive methods. Thematic analysis, comprised of both deductive approaches to explore data for themes related to the concepts defined by the conceptual framework, complemented by an inductive approach to identify themes that emerged from the data.

Multiple conceptual, methodological, and infrastructure challenges were highlighted with designing a performance measurement system for public health. Specifically, six major themes evolved including: 1) Challenges inherent in measuring the scope of public health; 2) Impacts of chronic underinvestment and funding cycles on the ability to sustain a measurement system; 3) Multiple forms of organization and governance across Canada; 4) Data limitations, fragmentation, and underdevelopment of information technology systems; 5) Concerns about use of a performance measurement framework ; and 6) Difficulty in measuring events that do not happen (i.e., successful prevention) and the long-time lags between public health action and certain outcomes. These challenges cannot be overcome without dedicated investment, strong leadership, and political will from the federal, provincial/territorial governments.

Unprecedented attention on public health due to the pandemic has presented an opportunity for system improvements, such as addressing the lack of a performance measurement system. This study provides actionable knowledge on conceptual, methodological, and infrastructure challenges needed to design and build a pan-Canadian performance measurement system for public health.

A1.2 - A qualitative study expanding our understanding of factors impacting delayed hospital discharge: Insights from patients, caregivers, providers and organizational leaders in Ontario, Canada

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

Presenter: *Kerry Kuluski*

Delayed hospital discharge is a care quality issue experienced globally. A patient with a delayed discharge is someone who remains in hospital, though they no longer need medical care. Despite delayed discharge being an issue in health systems for decades, the problem persists. The purpose of this study was to understand the nature of delayed hospital discharge (particularly the perceived causal factors) through the lens of a policy framework (ideas, institutions and interests; 3-I framework).

This was a qualitative descriptive study embedded within a multiple-case study. One-to-one in-depth interviews were conducted with 57 participants, including 18 patients, 18 caregivers, 11 providers and 10 organizational leaders across two hospital networks in urban and rural parts of Ontario, Canada. We used a directed content analysis approach drawing on the 3-I framework, to inductively and deductively synthesize participants' reflections on why the issue of delayed discharges occurs and persists. Three members of our research team reviewed the data and reached consensus on a final set of themes.

Delayed hospital discharge was a product of 1) spill-over effects (due to rules and eligibility in other health sectors that impacted the hospital) and variable implementation of hospital policies and guidelines (institutions); 2) competing priorities and tensions among patients, caregivers, providers and organizational leaders (interests); as well as 3) other perceived root causes including patient complexity, caregiver burnout, lack of system infrastructure, and an imbalance of system and personal responsibility to support aging adults (ideas). While we organized our findings into the different framework categories of ideas, institutions and interests, we acknowledge the overlap and intersection among these concepts.

Single sector (hospital only) approaches lead to focusing on organization-specific priorities such as increasing capacity and lowering length of stay, resulting in tensions amongst providers and with patients and caregivers. Therefore, addressing delayed discharge needs to be a cross-sectoral priority with various sectors working collectively to address this complex problem.

A1.3 - L'intégration de professionnels de la physiothérapie pourrait-elle être bénéfique en pharmacie communautaire ? Résultats d'une enquête auprès des pharmaciens du Québec.

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

Presenter: *Joanie Bédard*

Des milliers de Québécois présentant des troubles musculosquelettiques (TMS) attendent de recevoir des soins en raison d'un manque d'accès à des services de physiothérapie financés par l'État. Repenser l'offre de soins au sein des pharmacies communautaires pourrait permettre d'améliorer l'accès aux services de physiothérapie pour la population. L'objectif de ce projet était de décrire les perceptions et les besoins des pharmaciens en lien avec la prise en charge des TMS et les services de physiothérapie.

Une invitation à participer à une enquête descriptive sous forme de sondage en ligne a été envoyée aux pharmaciens pratiquant en contexte communautaire au Québec (Canada) via les listes d'envoi des différentes associations professionnelles et de l'Ordre des pharmaciens du Québec. Le questionnaire, disponible entre juin et août 2021, était intégré à la plateforme LimeSurvey. Il comportait 41 questions couvrant notamment le profil de pratique musculosquelettique des pharmaciens participants, leurs perceptions sur la physiothérapie et leur ouverture à la collaboration interprofessionnelle dans leur milieu. Les réponses ont été analysées à l'aide de statistiques descriptives.

Soixante-neuf (n=69) pharmaciens ont répondu au sondage en entier. Une grande majorité des répondants (91%) considère que la physiothérapie est efficace pour la prise en charge des TMS, mais que l'accès aux services de physiothérapie au public est insuffisant ou comporte des délais beaucoup trop longs (90%). Presque tous les participants (96%) pensent qu'un accès à des services de physiothérapie sans frais pour les patients au sein de leur pharmacie serait bénéfique pour leur clientèle et la communauté. Presque tous les répondants (96%) étaient d'accord que les pharmaciens et les professionnels de la physiothérapie pourraient bonifier leur collaboration interprofessionnelle en première ligne, et que l'approche pharmacologique devrait toujours s'accompagner de conseils non-pharmacologiques pour la prise en charge des TMS (99%).

Selon les pharmaciens répondants, établir des collaborations avec des physiothérapeutes en pharmacie communautaire pourrait améliorer l'accès à des services de physiothérapie gratuits pour la population et optimiser la prise en charge des TMS. Cette collaboration novatrice pourrait également valoriser les rôles complémentaires des professionnels de la santé en première ligne.

A1.4 - Perceptions of Health System Leaders on Single-Entry Models for Managing the COVID-19 Elective Surgery Backlog

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

Presenter: *Justin Shapiro*

The COVID-19 pandemic has exacerbated pre-existing challenges with access to elective surgery across Canada. A team-based, single-entry model (SEM) approach has been proposed as an equitable and efficient method to help manage the backlog. With Ontario’s recent investment in centralized surgical waitlist management, further understanding is needed on how health system leaders perceive the role of SEMs. We therefore sought to evaluate the perceived barriers and facilitators to implementing SEMs among health system leaders.

We used an interpretive descriptive design to explore participant perspectives and identify practical strategies for policymakers, administrators, and clinical leaders. We conducted semi-structured interviews with 10 health system leaders using snowball and purposive sampling. A preliminary coding framework was developed a priori based on literature reviews and consultation with content experts. We established validity through investigator and theoretical triangulation. Findings were compared and consensus was reached for a final coding framework. Inductive analysis led to the addition of novel codes to this framework. Data collection concluded when we achieved saturation in terms of depth, breadth, and consistency of themes.

Five domains emerged from our interviews: perceptions of the backlog, operationalizing & financing SEMs, facilitators, barriers, and equity & patient factors. All participants reiterated the transformative potential of SEMs and their utility in managing waitlists for “commodity” procedures: high volume, low acuity, low complexity, and low variation surgeries. Overall, study participants expressed that while SEMs will not alleviate the backlog entirely, they would be a useful tool to manage it. SEMs would prove most beneficial if implemented in tandem with other strategies, especially those which improve system capacity.

SEMs are a promising strategy for managing elective surgery backlogs in Canada. When SEMs are designed to address local needs with buy-in from champions, they can reduce variability in wait times and improve quality of care. The results of this study can guide policymakers in designing, implementing, and improving SEMs.

A1.5 - The intersection of intimate partner violence and traumatic brain injury: Findings from an emergency summit addressing system-level changes to better support women survivors

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

Presenter: *Danielle Toccalino*

Intimate partner violence (IPV) affects one in three women globally. The majority of injuries are to the head, face, and neck, leaving up to 75% of survivors with brain injury (BI). Despite being a significant public health crisis, the intersection of IPV and BI (IPV-BI) remains largely unrecognized. This presentation reports on key needs, facilitators, and barriers to care for women survivors of IPV-BI at the system-level, based on findings from a pan-Canadian summit.

Using a community-based participatory research approach, 30 stakeholders - drawn from a national IPV-BI Knowledge-to-Practice Network comprised of diverse women survivors, service providers, researchers, and decision makers – were engaged in two half-day virtual meetings. Data were gathered through small group breakout sessions using semi-structured discussion guides. Sessions were recorded, transcribed verbatim, and analysed using thematic analysis techniques. Stakeholders contributed to the analysis and knowledge translation through member checking activities. Ethics approval was obtained through the University of Toronto.

Stakeholders emphasized the many ways in which IPV-BI can be better supported through system-level changes to both health and social care services. Three main themes arose during these discussions: (1) the need for trauma-informed, anti-racist, and equitable health and social care systems; (2) the need for cross-pollination of knowledge between disciplines; and (3) the need for system-level support for integrated and coordinated care. This presentation will further explore these three themes as well as provided recommendations and suggestions for paths forward developed by stakeholders during the summit.

The findings of this project enhance understanding of support needs among women survivors and provide a template for a national agenda for IPV-TBI research and practice.

Published findings of this research can be found here: http://doi.org/10.1097/HTR.0000000000000743

A2.1 - But what happened to the patients? A Population-based Retrospective Cohort Study Examining Care Trajectories for Persons with Alternate Level of Care in Ontario, Canada during COVID-19

THEME: *COVID-19*

Presenter: *Sara Guilcher*

Persons become Alternate Level of Care (ALC) when they have completed their medical treatment but remain in hospital because they are unable to transition to the next point of care. During the first wave of COVID-19, ALC patients were rapidly discharged to increase hospital occupancy rates. The objectives of the present study were to examine the discharge destination, healthcare utilization and mortality rates after discharge among individuals who experienced ALC before and during the pandemic.

We conducted a population-based retrospective cohort study using linked administrative data. Persons admitted to an acute hospital in Ontario between April 1, 2019 and September 30, 2020 with an ALC length of stay, and discharged alive before September 30, 2020 were included. The onset of COVID-19 was the exposure. Primary outcomes included discharge destination, healthcare utilization (30, 60, and 90 day post discharge) and mortality. Multivariable logistic, zero-inflated Poisson regressions, and survival analyses compared 30 and 60 day mortality adjusting for age, sex, income quintile, rurality, comorbidity, number of drugs in previous year, frailty, and hospital harm during index admission.

The onset of COVID-19 significantly impacted the discharge destination, with lower odds of being discharged to long-term care [Odd Ratio (OR)= 0.76; 95% Confidence Interval, CI, 0.72-0.79]. Persons were less likely to receive homecare visits within 30 days of discharge [RR= 0.99, 95%CI 0.99-1.00], but by 90 days were more likely to receive homecare visits [RR=1.04, 95% CI 1.04-1.04]. We identified an increased likelihood of readmissions at 30 days [OR=1.09; 95% CI, 1.04-1.14] and 90 days [OR=1.06, 95% CI 1.04-1.13]. Patients were less likely to have physician visits within 30 and 90 days post discharge [RR=0.89, 95%CI 0.88-0.90; RR=0.81, 95%CI 0.80-0.81]. Survival analyses indicated increased hazard ratios (HR) of mortality at 30, 60, and 90 days [HR = 1.13, 1.12, and 1.08, respectively].

Findings suggest that the outcomes of patients who experienced ALC during the pandemic were significantly worse compared to pre pandemic times. This study provides important data to guide future discharge decisions among ALC patients, such that they are discharged to optimal supportive settings and follow up care to ensure for safety.

A2.2 - COVID-19 Hospitalizations in Canada: Clinical Characteristics and Costs

THEME: *COVID-19*

Presenter: *Jun Gao*

Hospitals and emergency departments across the country have been playing a critical role in responding to population health care needs during the COVID-19 pandemic. The data from these sectors can be used to provide a better understanding of resource utilization and outcomes for COVID-19 patients. This presentation will provide insights into COVID-19 hospitalization associated costs and trends across provinces and territories. It will also compare the cost of COVID-19 hospitalizations with other common hospitalizations.

Data on COVID-19 hospitalizations and emergency department visits was compiled from population-level administrative databases including the Discharge Abstract Database and National Ambulatory Care Reporting System between January 2020 and June 2021 (excluding Quebec). Case selection was based on ICD-10-CA COVID-19 diagnosis codes. Statistics on case volumes, demographics, length of stay, disposition, ICU admission and ventilator use was analyzed at provincial/territorial and national levels. Hospitalization costs for COVID-19 and other health conditions were estimated based on clinical information and an existing methodology that uses the average cost of a patient stay and the relative resource use for specific conditions.

Clinical information on almost 70,000 COVID-19 hospitalizations was analyzed. Patients who were hospitalized with COVID-19 from April to June 2021 were younger (median age of 59 compared with 68) and experienced lower in-hospital death rates (10% compared with 18%) than those who were hospitalized between January 2020 and March 2021. More than 1 in 4 hospital stays included an ICU stay. The estimated cost of a COVID-19 hospital stay was over $23,000, three times the average cost of a stay for a heart attack and similar to the cost of a stay for a kidney transplant in Canada. From January 2020 to June 2021, the total estimated cost of COVID-19 hospitalizations was almost 1.6 billion dollars.

As jurisdictions continue to cope with the pandemic, results from this presentation can help health system decision makers and governments around the country to better understand the impact of COVID-19 on the hospital sector and inform decisions around care.

A2.3 - Access to primary care among im/migrants during the COVID-19 pandemic: Analysis of population-based linked administrative data

THEME: *COVID-19*

Presenter: *Mei-ling Wiedmeyer*

Immigrants, refugees, and migrants (im/migrants) face multiple barriers to accessing healthcare in Canada. Im/migrants have been disproportionately impacted by COVID-19, and changes in healthcare delivery in the context of the pandemic may have compounded inequities in access. We describe access to primary care related to COVID-19 by immigration status and explore impacts of the rapid shift to virtual care among im/migrants, including people who have arrived recently with limited official language ability.

We used linked health and immigration data to describe primary care service use for COVID-19 over the pandemic course, comparing among people with temporary status, permanent residency, and citizenship at time of registration for health insurance. We also explored use of virtual and in-person primary care among non-im/migrants, im/migrants in Canada more than 5 years, and im/migrants in Canada less than 5 years, grouped according to language ability at time of arrival. We estimated odds of any access to primary care, and odds of access to in-person care in 2021 by immigration group, stratified by age.

Though COVID-19 infection was much higher among people with temporary status, the percentage of people with access to primary care for suspected or confirmed COVID-19 was much lower among people with temporary status (2.6%) compared with people who have citizenship (4.4%). Disparities in access to primary care by immigration status predate the pandemic, but grew wider in the context of COVID-19. This effect was particularly apparent among people ages 60+. Within this age group, people who had recently immigrated with limited English ability had half the odds of any family physician visit (adjusted odds ratio 0.53, 95% CI 0.50, 0.56) compared to non-im/migrants. Odds of an in-person visit were also significantly lower for this group (adjusted odds ratio 0.55, 95% CI 0.52, 0.57), despite known barriers to virtual visits among seniors and people with limited English ability.

Im/migrants experienced disproportionate risks from COVID-19 and reduced access to primary care, particularly among people ages 60 and older. Resourcing patient-centered, collaborative approaches in primary care service delivery that meet the needs of im/migrants, including seniors, and decoupling access to healthcare from immigration status are urgently needed.

A2.4 - Are we providing equitable healthcare to older Canadians with combined hearing and vision loss during the COVID-19 pandemic?

THEME: *COVID-19*

Presenter: *Atul Jaiswal*

Age-related hearing and vision impairment are often sidelined from health services research, despite being ranked second and third of all impairments contributing to the number of years lived with disability. Although there are over one million older adults with combined hearing and vision loss (dual sensory loss/DSL) in Canada, data are scarce on the impact of COVID-19 on their healthcare experiences. This study explored the access to healthcare for older Canadians with DSL during pandemic.

We conducted a mixed-methods study to integrate the perspectives of older Canadians with DSL, their caregivers who accompany them on medical visits, and their healthcare providers. Data were generated from qualitative interviews with 32 older Canadians with DSL and 31 caregivers, as well as through an online survey with 228 healthcare professionals (HCPs), followed by subsequent in-depth interviews with 24 survey respondents. Thematic analysis was used to analyze qualitative data, whereas descriptive statistics were used for quantitative survey data.

Qualitative interviews with older adults with DSL and their caregivers identified barriers in care delivery, that were lack of knowledge/training on DSL among HCPs, lack of time and comfort for HCPs to go beyond one's specialty, lack or limited support to overcome communication challenges for older adults with DSL, difficulty using technologies for virtual/telehealth, presence of additional comorbidities such as cognitive decline, and restrictions in caregiver accompaniment. The data from HCPs highlighted that having DSL, at a time of pandemic-related regulations, increased the adverse consequences of the pandemic on their healthcare experiences. The other reported barriers by HCPs were difficulties in using telehealth for older adults with DSL, issues in communication and identification of DSL due to use of masks and personal protective equipment, and limited caregiver accompaniment.

Our study indicated that the older adults with DSL and their caregivers experienced structural barriers in access to care, and the pandemic further exacerbated those challenges. Training of HCPs and caregivers on the DSL-specific communication and accessibility is critical to ensure equitable care for older adults with DSL.

A2.5 - Impact of the COVID-19 Pandemic on Pediatric Emergency Department Visits and Patient Outcomes of Appendicitis in Canada: An Interrupted Time Series Analysis

THEME: *COVID-19*

Presenter: *Francesca del Giorgio*

Since the onset of COVID-19 pandemic in early March of 2020, there has been concern over delays in seeking medical attention for pediatric appendicitis, resulting in worse prognosis. This study aimed to investigate whether there were changes in incidence of pediatric appendicitis diagnosed at the pediatric emergency department, and whether there were changes in severity of cases and hospital utilization for pediatric appendicitis during the first year of the COVID-19 pandemic compared to previous years.

This study made use of the computerized databases of the two tertiary care pediatric hospitals in Montreal, Quebec. Segmented Poisson regression adjusted for underlying baseline trend, seasonality, and site was used to estimate the change in bi-monthly incidence of children diagnosed with appendicitis at the onset (March/April 2020) and throughout the first 14 months of the pandemic, relative to the 4-year pre-pandemic trend. Change in average length of hospital-stay (measured via linear regression), and change in risk of perforated appendix and need for surgical drainage (measured via binomial regression) were used to quantify changes in hospital utilization and severity.

From the regression analysis, there was a 14% increase in the number of bi-monthly appendicitis cases at the pediatric emergency department diagnosed during the first two months of the pandemic (Incidence Rate Ratio(IRR)= 1.14, 95% CI= 1.01 ; 1.28). This increase remained stable throughout the first year of the pandemic. In secondary analyses, there was a decrease in average length of stay during the pandemic (0.43 day decrease, 95% CI=-0.72 ; -0.14), but there was no change in risk of perforated appendix (Risk Ratio= 0.96, 95% CI= 0.77; 1.20) or of requiring surgical drainage (Risk Ratio= 0.97, 95% CI= 0.71; 1.31).

The observed increase in incidence of pediatric appendicitis at the emergency department may result from an increase in triggers or changes in hospitalization use during the pandemic, but severity of cases remained stable relative to previous years suggesting no delays in seeking medical attention.

A3.1 - Beyond the Breaking Point: Nurses' Experiences with Mental Health Leaves of Absence Pre and Post COVID-19

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Shamel Rolle Sands*

The nursing profession is facing a multiplicity of occupational stressors which have been exacerbated by the Covid-19 pandemic. These stressors predispose nurses to develop mental health issues which may result in a leave of absence. The Healthy Professional Worker (HPW) Partnership is a pan-Canadian study aimed at examining the gendered experiences of mental health, leaves of absence, and return to work in order to design better workplace interventions to support nurses.

This study employed a multi-method approach that utilized document analysis, worker surveys, intervention case studies, worker, and stakeholder interviews. 54 nurses and 17 stakeholders participated in one-on-one, semi-structured interviews that were analyzed thematically and iteratively, including a priori themes which were informed by literature and our pilot research. This study was guided by an intersectional and gendered lens examining the influence of roles and norms at the individual, family, organizational, and societal levels.

Preliminary findings suggest that nurses reached a “breaking point” in which they could no longer attend to their mental health, which was further exacerbated by workplace stigma and judgement from colleagues and managers. Nurses expressed immense guilt at contemplating a leave of absence while being cognizant of chronic staffing shortages, heavy workloads, and perceived obligation to colleagues. In light of these conditions, nurses often choose presenteeism over absenteeism. Stakeholders acknowledged the complexity of mental health issues nurses experience, but articulated uncertainty on how to better support nurses at provincial and national levels. Stakeholders shared that they are but one of many pieces in supporting nurses, and requested for work environments to include debriefing, support networks, and expanded access to formal mental health resources.

There is a salient need for nursing work environments to support nurses’ mental health. Policies and programs addressing nursing burnout are required, including improvements in chronic staffing shortages, overwhelming workloads, and mental health stigma. Additionally, nurses require debriefing opportunities, supportive networks, and expanded access to formal mental health resources.

A3.2 - Integrated health and social care within a Canadian context: three case studies in Ontario, Alberta and Nova Scotia

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Siu Cheng*

Integrated health and social care (IHSC) allows for the provision of care within a social determinants of health frame high-risk populations. Extant literature shows that IHSC can improve patient health and social care outcomes for vulnerable older adults. The presentation will highlight the integration factors that allow for different healthcare and social care organizations to engage in successful IHSC. It will also provide an overview of the contextual factors that influence IHSC in Canada.

A multiple case study of integrated health and social services initiatives in Ontario, Alberta and Nova Scotia was undertaken to explore the integration and contextual factors that support successful services integration among different healthcare and social services organizations serving older adults. Three voluntarily driven community-based IHSC initiatives were selected: geriatric assessment program collaboratory in Camrose, AB; a day program situated in Toronto, Healthy at Home; and an award-winning integrated care program, the Middleton Day Program situated in the Annapolis Valley, NS. Data was collected and analyzed based on key informant interviews and focus groups for each case that comprised of representatives from a cross-section of different health and social care organizations in each case.

It was discovered that there were nine common critical inter- organizational factors that support integration among all three cases, despite the variation in contextual factors. These included shared vision and goals, culture, leadership, dedicated funding and resources, team-based approaches, communication, information sharing, champions, pre-existing relationships and role clarity. Despite differences in urban/rural geographic location and governing healthcare systems, the cases shared six common contextual factors influenced integration: governance authorities, government policies and agendas, working within a not-for-profit context, aging populations, geography, transportation, and a close sense of community. It was of interest to note that technology, performance measurement systems and accountability structures were not identified as being necessary in the success of the three initiatives.

The study findings show that IHSC is occurring voluntarily and at the grass-roots level in Canada. The Canadian IHSC experiences are aligned with extant literatre, but the research findings show that there is a uniquely Canadian set of forces that exert an influence on IHSC, including policies and governance systems.

A3.3 - Integrated Care in Ontario: Cross-case Learnings from a Developmental Evaluation of Ontario Health Teams

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Kaileah McKellar*

In 2019, Ontario's Ministry of Health launched Ontario Health Teams (OHTs), an ambitious initiative that seeks to ensure that all health care organizations, providers, and patients across the province are connected to an integrated team with responsibility for eventually providing all healthcare services for a specific population. The objective of this evaluation was to understand how OHTs are developed, what matters to stakeholders during this process, and what helps or hinders this work.

We conducted a developmental evaluation (DE) focusing on six OHTs from across Ontario, representing different geographies. Each OHT had an embedded researcher acting as a liaison. The primary method of data collection was observation, with team members attending select virtual planning meetings. Additionally, we conducted key-informant interviews and used participant journaling. Timely feedback was an important part of the DE. Feedback was tailored to each OHT and included formal and informal presentations of findings. Feedback was organized around key themes and included the strengths and challenges experienced by OHTs.

As all six OHTs were in the early stages of development, working out what their vision was and how to practically implement it emerged as a focus. The engagement of partners, patients and physicians, a collaborative team culture, leadership, governance structures, strategic planning, model design and data-driven practice helped forward vision-building in different ways across OHTs. These factors fostered OHT development when present in meaningful ways and were challenges when absent. Timely feedback to OHTs focused on both highlighting areas of strength and improvement.

The developmental evaluation approach allowed us to track implementation progress and provide feedback to OHTs to support innovation and development. This study provides an early indication of OHTs' strengths and where they will require support to successfully implement integrated care to meet their population's health needs.

A3.4 - Challenges of reforming integrated care in the context of ACO-like organizations: A scoping review

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Élizabeth Côté-Boileau*

In the past decade, Accountable Care Organizations (ACO) have risen in the health policy landscape as promising instruments to incentivize both healthcare quality and efficiency through the creation of shared accountability and shared risk delivery systems. More recently, ACOs are growing as potential incubators for large-system care integration world-wide. However, to this day, little research has been done on the particular challenges and opportunities arising from reforming integrated in the context of ACO-like organizations.

We aim to better understand the particular challenges and opportunities for reforming integrated in ACO-like organizations. We conducted a scoping review (Summer-Fall 2021), systematically investigating six bibliographic databases to search, screen and select relevant literature ACOs and integrated care. We screened 521 papers, then completed a full-text review of 105 identified as relevant based on title and abstract. A total of 36 papers were retained for analysis. Data were extracted and synthesised through descriptive and inductive thematic analysis.

We identify four preliminary clusters of challenges and opportunities towards reforming integrated care in ACO-like organizations. First, numerous studies support that ACOs' shared governance and accountability models raise significant challenges towards care integration. Variability in terms of organizational maturity, institutional logics, and partner engagement strategies namely emerges as factors that would influence the capacity of ACOs to established shared governance and accountability. Second, the slow development of digital health and data-driven patient navigation functions in ACOs currently hinders population health management capacity building that is crucial to integrated care. Third, collective incentives might not be sufficient to overcome the various boundaries that keep system partners disintegrated. Finally, patient and community engagement as a strategy for integrated care remains premature and rarely incentivized in ACO-like organizations.

Challenges of reforming and delivering integrated care within ACO-like organizations namely include shared governance and accountability, digital health and patient navigation capacity, collective incentives and patient engagement. Further research should focus on how ACOs may go from offering organizational levers to conveying true integration at the point of care.

A3.5 - Evaluating Patient Navigation as a Boundary Concept: a realist synthesis

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Fedir Razumenko*

A boundary concept is a construct shared by multiple groups of people which allows them to communicate and cooperate across disciplines while also allowing them to maintain their identities. Patient navigation (PN) has evolved and expanded in scope as a loose construct with a strong cohesive power. While many programs are considered to be “patient navigation”, their operations, program characteristics, and targeted populations vary widely. There is also no consensus on a definition for PN. Our study objective is to explore the history and evolution of PN as a boundary concept, to understand how these differences in definitions and operations came to be.

A qualitative mixed-methods project is being conducted, using realist synthesis and a social constructionism approach of science and technology studies. We will identify program theories of how PN is meant to work, and how these theories have evolved over time, and across different disciplines (e.g., nursing and social work). Through mapping PN activities, we will be able to identify areas of overlap and distinction with other interventions and disciplines.

Preliminary results suggest that there is variation in how the role, activities, and purposes of patient navigators are defined and described. While initially meant to address disparities, PN has evolved to become a value-added service for a much broader population. With that evolution, different disciplines consider PN to be within their professional domain and scope. The absence of a precise and operational definition is therefore intentional, in line with boundary concepts, so that PN can be adapted and interpreted by different disciplines according to their professional priorities and resources offered.

Ultimately, the scope of difference within PN as a boundary concept raises questions about whether the variety of programs being implemented indeed cohere as a single phenomenon.

A4.1 - Preliminary Assessment of the Implementation of Safer Supply Pilot Projects funded through Health Canada’s Substance Use and Addictions Program

THEME: *Mental Health and Addictions*

Presenter: *Dale McMurchy*

Canadian lives continue to be lost to overdoses from a toxic illegal drug supply. As the overdose crisis worsened during COVID-19, healthcare experts and people who use drugs (PWUDs) called for greater access to a safer supply of drugs. In 2020, the Substance Use and Addictions Program at Health Canada funded projects offering prescribed medications as an alternative to illegal drugs and commissioned an assessment to capture early learnings and effective strategies for program delivery.

This mixed-methods evaluation entailed an in-depth review of the safer supply programs’ design, implementation, processes and procedures, and initial outcomes. The study involved program document and high-level literature reviews. A staff survey received 100 responses from eight programs; two-thirds responded extensively to three opened-ended (qualitative) questions. Additionally, each program completed a detailed questionnaire about implementation and services, followed by 15 in-depth interviews/focus groups with program leads and key staff. Fifteen semi-structured participant interviews (via telephone or videoconference) were conducted at seven of the programs. Data were triangulated to assess key design and implementation features, preliminary outcomes and to develop recommendations.

Respondents reported that safer supply services positively impacted participants’ lives, including improved safety, stability, health and wellbeing. Diverse care teams address health and social care needs, and benefit from several partnerships. Collaboration with primary care, pharmacists and supervised consumption sites is key. Prescriptions and dosages differ by program and staff work with participants to find an approach that works best. However, many participants still struggle with withdrawal symptoms given their high tolerance resulting from fentanyl use. Lessons learned include: grounding services in community and input from PWUDs; innovating based on participants’ evolving needs; establishing effective organizational structures; understanding federal/provincial legislation and regulations; understanding professional regulations and scopes of practice; and offering various delivery models based on harm reduction principles.

Safer supply programs have benefited participants in multiple ways, including reduced overdoses. However, currently available services have not been able to meet demand. Broader access to safer supply services is needed to provide medications and comprehensive services to PWUDs.

A4.2 - Circumstances of Opioid-Related Deaths in Ontario during the COVID-19 Pandemic

THEME: *Mental Health and Addictions*

Presenter: *Sophie Kitchen*

In Ontario, the COVID-19 pandemic has exacerbated the ongoing opioid overdose crisis, leading to a significant rise in unintentional deaths due to opioid-related toxicity. We sought to describe characteristics of death, patterns of prescription drug dispensing, and frequency of healthcare use among people who died of an accidental opioid-related toxicity in Ontario prior to the pandemic and during the first two waves of the pandemic.

We conducted a cross-sectional study to compare characteristics of death, patterns of prescription drug dispensation, and frequency of healthcare use among people who died of an opioid-related toxicity in Ontario during to the COVID-19 pandemic (March to December 2020) to those who died of an opioid-related toxicity over the same timeframe in the prior year (March to December 2019). An opioid-related death was defined as an acute intoxication/toxicity death resulting from the direct contribution of an opioid. Data was obtained from the Office of the Chief Coroner/ Ontario Forensic Pathology Services and linked to healthcare administrative data at ICES.

From March-December 2020, 2,050 people died of a confirmed or suspected opioid-related death in Ontario, a 76% increase compared to the year prior. Among confirmed accidental opioid toxicity deaths linked to healthcare data, fentanyl directly contributed to a greater proportion of deaths during the pandemic (89.3%), rising from 78.9% of deaths in the pre-pandemic period ($p<0.001$). Only one in four individuals who died had recently been dispensed a prescription opioid, and nearly half of those prescriptions were for methadone. Half of Ontarians who died of an opioid overdose during the pandemic had an interaction with the healthcare system in the month prior to death and 24.2% had an interaction in the week prior to death. Approximately 1 in 6 deaths occurred among individuals experiencing homelessness.

The high frequency of healthcare interactions in the week and month prior to death among people who died of acute opioid toxicity suggests potential missed opportunities for connecting those at risk of overdose with access to treatment, housing support, mental health services, and harm reduction to decrease preventable deaths.

A4.3 - Estimating the population-level effects of Ontario’s overdose prevention sites and consumption and treatment services: interrupted time series analysi

THEME: *Mental Health and Addictions*

Presenter: *Dimitra Panagiotoglou*

Ontario recently implemented overdose prevention sites and consumption and treatment services (OPS/CTS) to stem the harms of the opioid overdose epidemic. We tested whether operating any site improved local opioid-related health service use and mortality rates.

We used monthly counts of all opioid-related emergency department (ED) visits, hospitalizations, and deaths between January 2014 and December 2020 for our outcomes. For each public health unit (PHU) that implemented any OPS/CTS, we created a synthetic control as a weighted combination of unexposed PHUs. We estimated the population-level effects of operating any site using controlled interrupted time series with segmented regression and adjusted for time varying confounders (i.e. OPS/CTS capacity, naloxone kits distributed, and persons receiving opioid agonist treatment per 100,000 population). We repeated the analysis using a multiple baseline approach to estimate province-wide effects.

Between 2017 and 2020, nine out of 34 PHUs implemented at least one OPS/CTS. ED visit (RR=0.96, 95% CI: 0.92 – 0.99) and hospitalization (RR=0.95, 95% CI: 0.92 – 0.98) trends declined faster among treated units. Improvements in local ED visit rate trends were observed for the majority of treated units. Meanwhile, mortality rates declined faster for Hamilton (RR=0.93, 95% CI: 0.90 – 0.96), Niagara (RR=0.97, 95% CI: 0.94 – 0.99) and Guelph (RR=0.94, 95%CI: 0.88 – 1.00).

Although OPS/CTS are not sufficient to stem the harms of the opioid overdose epidemic on their own, they play a critical role in local harm reduction strategies.

A4.4 - Bridging the macro-micro divide: A Qualitative Meta-synthesis on the Perspectives and Experiences of Healthcare Providers on the Extramedical Use and Diversion of Buprenorphine

THEME: *Mental Health and Addictions*

Presenter: *Kasunka Kankanam Gamage*

Opioid agonist therapy using buprenorphine is one of the most effective treatments for opioid use disorder. Yet, concerns regarding its extramedical use and diversion, such as adverse patient outcomes and damage to the legitimacy of addictions practice, are persistent. The aim of this study was to synthesize the perspectives and experiences of healthcare providers around the extramedical use and diversion of buprenorphine.

A systematic search was conducted of primary qualitative and mixed-methods studies on the views of healthcare providers on extramedical buprenorphine use. We used the qualitative meta-synthesis approach for data analysis. We conducted line-by-line coding to identify themes and concepts, and prepared narrative summaries based on a coding schema developed by the research team.

Sixteen studies were included in this review. Findings were organized under two key themes: 1) Harm-producing versus harm-reducing effects of extramedical buprenorphine use; 2) Driving forces of and responses to extramedical buprenorphine use. Providers noted barriers to accessing formal treatment, lack of follow-up mechanisms for those with opioid use disorder, and the under-regulation of buprenorphine as factors driving extramedical buprenorphine use. More control and monitoring to limit the supply of buprenorphine (i.e., drug testing, pill counts, change in prescribing practices) were the most commonly provided solutions. There is a key disconnect in provider views: they saw that macro, health systems-level challenges primarily drove extramedical use, while their recommended solutions were primarily at the micro, individual patient-level.

The macro-micro disconnect in healthcare governance explains the disconnect in provider views. This review emphasizes the need of integrating macro-micro governance in opioid use disorder care and the critical role of providers together with people who use opioids in empowering macro-level governance.

A4.5 - Mental health care utilization upon release from provincial correctional centres and risk of reincarceration in British Columbia

THEME: *Mental Health and Addictions*

Presenter: *Heather Palis*

Approximately 70% of people in BC's provincial correctional centers have diagnosed mental health and/or substance use disorders. Many serve short sentences, and cycle frequently between corrections and community. The days and weeks directly following release from prison represent a critical period to address unmet mental health needs. This study examined the association of mental health services utilization and reincarceration among people with a recently diagnosed mental illness who were released from BC's provincial correctional centres.

We used the 20% random sample of the general population of BC contained within BC's Provincial Overdose Cohort. People who had a record of release from a provincial correctional centre between January 1 2015- September 30th 2018, and who had a mental illness diagnosis in the six months prior to release were eligible for inclusion. Information on mental health services utilization (i.e. primary care, hospitalization and emergency department visits), outcome (reincarceration within 90 days of release), and additional variables were retrieved from linked provincial health and corrections data. Odds of reincarceration was examined using generalized estimating equations (GEE).

During the study period, we identified 10,035 cases of release from incarceration among 3652 people. Reincarceration occurred within 90 days of release in approximately half of these cases (n=5193), and mental health services were accessed in approximately 44% of cases (N=4420). The adjusted GEE model revealed that cases with mental health services utilization had nearly half the odds of reincarceration compared to cases without access (OR: 0.48, 95% CI: 0.43-0.54). Cases in all age categories had significantly lower odds of reincarceration compared to cases aged <30 years, females had lower odds compared to males (OR: 0.76, 95% CI: 0.65-0.89). Incarcerations over 60 days were associated with half the odds of reincarceration (OR: 0.54, 95%CI: 0.43-0.67) compared to incarcerations under 4 days.

Half of persons with mental illness released from provincial correctional centres in BC are reincarcerated within 90 days. Mental health care utilization upon release reduces risk of reincarceration. Efforts targeted at increasing accessibility of timely mental health services for this population can support increase individual well-being an reduce reincarceration.

A5.1 - Describing settings of care in the last 100 days of life for cancer decedents: a population-based descriptive study

THEME: *Cancer*

Presenter: *Sarina Isenberg*

Few studies have explored which settings decedents spend their end-of-life stage in. No studies have described the different settings of care experienced by cancer decedents during the last 100 days of life using health administrative data. Objective: To describe the different settings of care experienced in the last 100 days of life by decedents whose primary cause of death was cancer and how settings of care change as they approached death.

A retrospective cohort study of decedents whose primary cause of death was cancer, using linked population-level health administrative datasets held at ICES in Ontario, Canada. The cohort included decedents aged 19+ who died between January 1, 2013, and December 31, 2017. Exclusions include age>105, ineligibility for OHIP, and address outside Ontario at death. Descriptive results are presented as counts and proportions for categorical variables, and as mean and standard deviations (SD) for continuous variables. Absolute and relative differences are presented for changes in days spent in different healthcare settings across the last 100 days of life.

125,755 decedents in our cohort. Average age at death was 73, 46% were female, and 14% resided in rural regions. Twenty-four percent died of lung cancer, 7% breast, 7% colorectal, 7% pancreatic, 5% prostate, and 50% other cancers. In the last 100 days of life, decedents spent 1.7 days in emergency rooms, 12.6 days in inpatient hospitals, 4.4 days in palliative care units, 2.5 days in complex continuing care or rehabilitation, 4.7 days in long-term care, 4.6 days at home with outpatient care, 21.2 days at home with home care, and 48.3 days at home without any care. Regardless of cancer type, decedents spent less time at home and more time in institutions as they approached death, despite established patient preferences for the end-of-life experience.

Improving homecare services during the end-of-life may provide people dying of cancer with a preferred dying experience. Our findings emphasize the importance of improving end-of-life care delivery to keep patients in the community and out of institutions during this important life stage.

A5.2 - Impact of the COVID-19 Pandemic on Diagnosis and Treatment of Pediatric Cancer Patients: An Interrupted Time Series Analysis

THEME: *Cancer*

Presenter: *Francesca del Giorgio*

The worldwide reduction in pediatric emergency department (ED) visits during the COVID-19 pandemic led to concerns of worse prognosis for pediatric cancer patients resulting from delayed diagnosis and treatment. This study aimed to quantify whether there was a change in incidence of pediatric emergency department (ED) visits and oncology admissions for children with suspected or previously confirmed cancer during the first year of the COVID-19 pandemic relative to the pre-pandemic incidence in Montreal, Quebec.

This retrospective cohort study used the electronic medical records of two pediatric hospitals in Montreal to identify children diagnosed with suspected or confirmed oncological conditions between January 2016 and May 2021. An interrupted timeseries design was used to quantify the change in bi-monthly incidence of ED visits and hospitalizations via Poisson and negative binomial regression respectively adjusted for baseline trend, seasonality, and site. Outcomes of interests included 1) change in incidence at the onset of the pandemic and 2) change in bi-monthly trend throughout the first 14 months of the pandemic compared to the predicted incidence from a historical period.

A 35% reduction in ED visits for children with suspected and confirmed cancers was observed at the onset of the pandemic (Incidence Rate Ratio(IRR) = 0.65, 95% CI: 0.53, 0.79), followed by a gradual increase in cases to baseline throughout the pandemic (IRR=1.11, 95% CI: 1.05, 1.17). There was no change in incidence of admissions to the oncology ward either at the onset or throughout the pandemic (IRR=0.97, 95% CI= 0.90, 1.03).

Although there was a significant reduction in number and incidence of ED visits for children with confirmed or suspected cancer during the first year of the pandemic relative compared to previous years, there was no change in pediatric oncology admissions.

A5.3 - Invasive interventions in the last 100 days of life of patients with cancer: A population-based retrospective cohort study

***THEME:** Cancer*

Presenter: *Colleen Webber*

Invasive interventions for patients with cancer who are nearing death may reflect poor quality cancer care that is not aligned with patient preferences. Understanding patterns of intervention receipt may identify strategies to prevent unwanted or overly aggressive care. The objective of this study was to describe the receipt of invasive interventions in the last 100 days of life of cancer patients and to examine variations in interventions according to patient characteristics and cancer site.

We conducted a population-based retrospective cohort study of all adults age 18+ who died of cancer in Ontario, Canada between January 1, 2013 and December 31, 2017. Invasive interventions were defined based on previous literature and included chemotherapy, major surgery, intensive care unit admission, cardiopulmonary resuscitation, defibrillation, dialysis, percutaneous coronary intervention, mechanical ventilation, feeding tube placement, blood transfusion and bronchoscopy. These interventions were captured via hospital discharge records. We used bivariate analyses and multivariable Poisson regression to examine associations between the receipt of and rates of invasive interventions and decedent age, sex, rurality, area-level income, and cancer site.

Among the 125,755 decedents, the most common intervention was blood transfusion (18.1%) and major surgery (12.8%); 23.8% received no interventions, while 14% of decedents received 3+ interventions. Lower intervention rates were observed in older patients (adjusted rate ratio (RR) 0.46, 95% confidence interval (CI) 0.44-0.49 for age 95+ vs. 19-44), females (RR 0.93, 95% CI 0.92-0.94), and individuals living in higher income areas (RR 0.96, 95% CI 0.95-0.98 for highest vs. lowest income quintile). Higher intervention rates were observed in rural patients (RR 1.13, 95% CI 1.11-1.14). Patients with pancreatic cancer had the highest intervention rate (RR 1.13, 95% CI 1.10-1.16), while breast cancer patients had the lowest intervention rate (RR 0.86, 95% CI 0.84-0.89) compared to colorectal cancer patients.

Invasive interventions were common in the last 100 days of life of patients with cancer. Variations in interventions across patient demographics and cancer site may reflect differences in healthcare access, end-of-life care preferences, patients’ prognostic awareness, and disease factors.

A5.4 - The influence of intellectual and developmental disability on breast, lung, and colorectal cancer survival in Ontario, Canada

THEME: *Cancer*

Presenter: *Rebecca Hansford*

Cancer is a leading cause of death among people living with intellectual and developmental disabilities (IDD). Cognitive challenges, communication difficulties, and structural biases may contribute to worse cancer prognosis for this population. There is a lack of research investigating disparities in cancer survival for people living with IDD relative to those without. Therefore, this study investigated the association between IDD and cancer survival among adults with breast, colorectal, and lung cancer in Ontario, Canada.

A population-based retrospective cohort study was completed linking routinely-collected data at ICES. Adults diagnosed with breast, colorectal or lung cancer in the Ontario Cancer Registry (2007-2018) were included. IDD status prior to the cancer diagnosis was determined using an established administrative data algorithm. The outcome of interest was death from cancer. The impact of IDD on cancer survival was estimated using the cause-specific hazards approach for a competing events analysis. Analyses were stratified by cancer type. Interactions with sex and age were completed. Sensitivity analyses varying exposure definitions and outcome definitions were completed.

The final cohorts consisted of 123,696 breast, 101,269 colorectal, and 116,232 lung cancer patients. Within each cohort, 0.33% - 0.51% had a history of IDD. Individuals with IDD experienced significantly worse prognosis than those without IDD. The adjusted hazards of cancer-specific death were 2.28 (95% CI 1.86-2.78), 2.57 (95% CI 2.26-2.93), and 1.38 (95% CI 1.21-1.57) times higher for breast, colorectal, and lung cancer patients with IDD relative to those without IDD. Sex and age did not modify the relationship between IDD status and cancer-specific death. Findings were consistent across several sensitivity analyses.

Persons with IDD experience inequities in cancer survival in Canada. Identifying the underlying factors responsible for survival disparities will be critical to improving cancer prognosis for this population. Cancer resources designed for people with IDD along the cancer continuum and resources for the oncologists providing their care may be needed.

A5.5 - Unpacking age: Secondary age analysis of the Ambulatory Oncology Patient Satisfaction Survey data to inform implementation of innovative models of care

THEME: *Cancer*

Presenter: *Fay Strohschein*

In Alberta, 25% of new cancer cases occur in those 75+ years. Age-related changes impact cancer outcomes and experiences; however, programs and services to address the needs of older Albertans with cancer and their families are lacking. Insight into age-related concerns is needed to inform program development. The objective of this project is to use age-analysis of the 2021 Ambulatory Oncology Patient Satisfaction Survey (AOPSS) to inform new models of care, programs, and services.

An embedded research approach was used. AOPSS is a 96-item questionnaire distributed bi-annually to Albertans with a cancer diagnosis who received systemic/radiation treatment at an Alberta cancer centre in the six months prior to survey distribution. It considers satisfaction across six dimensions of person-centred care and includes one open-ended question. A question asking if desired help was received across eight types of issues identifies unmet needs. Exploratory quantitative and qualitative age-analysis using (descriptive statistics, bivariate and multivariate analyses, and thematic analysis) informed recommendations for tailored models of cancer care, programs, and services, which were identified through review of existing literature.

2204 of 4000 (56%) surveys were returned. When 65 years was used as the cut off for older adults, statistically significant differences pointed towards lower satisfaction for young adults with cancer. However, when older adults were broken into three groups (65-74, 75-84, and 85+ years), decreasing patterns of satisfaction were evident for older adults across almost all dimensions of person-centred care. Decreased satisfaction for older adults was statistically significant ($p<.05$) on the physical comfort dimension for those aged 65+, on the coordination and continuity of care dimension for those aged 75+, and on the access to care dimension for those aged 85+. There was a consistent increase in unmet needs with age, that was statistically significant ($p<.05$) for social/family, financial, emotional, and sexual health issues.

Grouping together all adults aged 65 years+ on satisfaction surveys can obscure decreased levels of satisfaction among those 75 years+ and 85 years+, marginalizing the voice of older adults and embedding systemic ageism into measurement. Age-analysis is key to identifying unmet needs to appropriately inform service priorities and program implementation.

A6.1 - Women Supportive Housing Engagement

THEME: *Equity and Vulnerable Populations*

Presenter: *Volletta Peters*

Women experiencing substance use, homelessness, mental health illness, and trauma encounter multiple barriers obtaining and sustaining safe, affordable and supportive housing that will help them to improve their physiological, psychological and psychosocial well being. The project, a community- based collaborative research was co-produced with women with lived experience to help bring awareness to these issues and identify best practices in designing and developing housing and housing support solutions for women with complex substance use challenges.

Jean Tweed Centre, a leader in providing trauma-informed services for women and women-led families initiated and led the project in collaboration with Street Haven, a program serving at risk women, and Working for Change, an organization that provides training and employment opportunities for marginalized communities. A stakeholder research advisory committee oversaw all aspects of the project from designing the data collection instruments, data collection and analysis, through to knowledge translation. Data collection included interview and focus groups with service users, staff focus groups, and interviews with a cross-section of community-based organizations, including supportive housing, emergency shelters, and multi-service agencies.

Data was collected from 31 service users, 32 employees from 15 community organizations. The results revealed that a range of housing options including built form and programs are required to address the housing and support needs of women with substance use challenges. Housing models should reflect the diverse needs of women who are at different stages in their recovery, including, harm reduction and abstinence-based transitional housing, self-contained units in: abstinence-based buildings, mixed supportive housing buildings, and subsidized market rent buildings 82% respondents identified the need for security features to enhance safety. Program supports identified included onsite support staff trained in trauma-informed culturally competent services, peer support workers, food security, and a range of clinical and social recreational group activities. Additional funding is also required.

Exploring models of housing-built form and programming for women who experience homelessness, substance use, mental illness and trauma will provide affordable housing providers, clinical service providers, and policy and decision makers with data to help inform evidence-based short-term and long-term policy directives and strategies to address the housing and support needs of this vulnerable sub-population

A6.2 - A Synergistic Approach to Home Care for Older Adults: Sharing Promising Practices from Integrated Care Programs

THEME: *Equity and Vulnerable Populations*

Presenter: *Krystal Kehoe MacLeod*

Integrated care programs in Canada are being used to improve continuity of care for older adults aging in place.

Objectives:

(1) To highlight the importance of considering equity when selecting policy techniques to improve integration and/or reduce fragmentation of health and social care services in the home care sector.

(2) To share promising practices being used by integrated care programs to improve continuity of care for older adults in an equitable and efficient manner.

This presentation is based on a research study of five Canadian integrated care programs for older adults living at home in Ontario, Alberta and British Columbia. To gather an in-depth understanding of integrated home care rooted in the lived experiences of research participants, semi-structured narrative interviews were conducted with 118 key informants, including: program administrators, clients, paid care workers and family carers. Data were analyzed using iterative thematic analysis and a feminist political economy lens.

Integrated care programs were able to respond to the expressed need of clients and family carers to improve continuity of care but the benefits of enhanced integration were not shared equitably among clients and care workers, often putting those belonging to marginalized groups at a further disadvantage. Programs that used policy techniques focused on both equity and efficiency were able to more evenly distribute the benefits of integration among clients and care workers. This presentation will share promising practices in the promotion of equitable improvements to continuity of care in three areas: making time to talk, supporting paid and unpaid carers, and creating team-based forums for collaboration.

Using integrated home care programs to improve continuity of care in an equitable manner is an important step towards addressing the health and social care needs of older adults belonging to historically marginalized communities and creating healthier workplaces for care workers.

A6.3 - The rate of Major Adverse Cardiovascular Events and Revascularization Procedures among People with Diabetes Experiencing Homelessness

THEME: *Equity and Vulnerable Populations*

Presenter: *Ruchi Sharan*

The optimal management of diabetes demands rigorous self-management to prevent life-altering complications from hyperglycemia. For many reasons, homelessness presents a major challenge to diabetes self-management, increasing risk for hyperglycemia and poor diabetes outcomes. However, there is very little data looking at the true impact of homelessness on diabetes-related complications. We aim to compare the rate of major adverse cardiovascular events (MACE) and revascularization procedures among people with diabetes experiencing homelessness to those of non-homeless controls.

A propensity-matched cohort study was conducted using hospital data from Ontario, Canada. Inclusion criteria included a diagnosis of diabetes and at least one hospital encounter between April 2006 and March 2019. Homeless status was identified using a validated algorithm of data elements such as no fixed address, discharge to shelter, and ICD-10 codes for homelessness. Eligible people with history of homelessness were 1:1 matched to non-homeless controls with similar sociodemographic and clinical characteristics. Rate ratios for acute myocardial infarction, stroke, heart failure, stenting, and bypass surgery were calculated using generalized linear models with Negative Binomial distribution and robust standard errors.

1,076,437 eligible people with diabetes were identified during the study period. Of these, 6944 (6.4%) were identified as homeless using their hospital records. A suitable non-homeless match was found for 5219 homeless patients. The rate of MACE was higher for people with a history of homelessness compared to non-homeless controls (RR = 1.66; 95%CI: 1.45-1.89). The rates were 26% higher for acute myocardial infarction, 41% higher for stroke, and 78% higher for congestive heart failure. In contrast, the rates of revascularization procedures were lower for people with a history of homelessness (RR = 0.79; 95%CI: 0.62-0.94). Notably, procedural rates were 21% lower for stenting and 36% lower for bypass graft surgery.

People with diabetes experiencing homelessness have a higher rate of MACE but lower rates of revascularization procedures compared to non-homeless controls. The identification of homelessness as an independent risk factor for diabetes complications can help direct targeted screening and outreach practices to improve health outcomes in this population.

A6.4 - Assessing Changes in Relational Continuity of Care Among Adults with Vulnerable Housing in a Transitional Case Management Program

THEME: *Equity and Vulnerable Populations*

Presenter: *Alexandra Chiew*

Individuals with vulnerable housing often experience barriers to health and social care, which contribute to health inequities. Connect 2 Care (C2C) is a case management intervention that connects people with vulnerable housing and high acute care use to community-based care. Relational continuity of care, a proxy for stable patient-provider relationships, is associated with improved patient outcomes in the general population. We assessed whether adults with vulnerable housing experience improved relational care continuity following C2C enrolment.

We used physician billing data to conduct a pre-post cohort study with adults engaged with C2C. Participants must have been homeless or vulnerably housed, had ≥3 emergency department presentations or ≥2 hospitalizations within the past year, and ≥3 primary care visits pre- and post-C2C for analyses. Relational continuity was measured at the provider and site level using the visit-based Usual Provider of Care (UPC) and Continuity of Care (COCI) indices. We performed paired t-tests to compare continuity within the year pre- and post-C2C and identified the proportion of patients that experienced increased continuity (i.e., a shift to a higher quartile).

Of 390 participants, 220 had 3 or more primary care visits pre- and post-C2C (mean age 44.8±12.0 years; 66.4% males; 50.9% homeless). The median number of primary care visits increased from 12 (IQR 7-19) to 14 (IQR 8-22) from pre- to post-C2C. We found a significant increase in care continuity following C2C enrolment – pre- to post-C2C, there was a mean increase of 0.04 (95%CI: 0.0002-0.073) in provider-UPC and 0.04 (95%CI: -0.006-0.078) in provider-COCI. Similar improvements were observed for site-level UPC and COCI. Stratified analyses demonstrated no differences in subgroups across 11 patient characteristics. As a dichotomous variable, 41.4%, 39.5%, 37.3%, and 39.5% of participants experienced an increase in care continuity to a higher quartile across the provider-UPC, provider-COCI, site-UPC, and site-COCI, respectively.

Our results suggest that case management interventions may improve relational continuity of care at the provider and site level among individuals with vulnerable housing. These findings add to our understanding of how primary care access and delivery may be improved among this population to reduce health inequities.

A6.5 - Understanding the relationship between loneliness and immigration-related factors in older adults in Ontario, Canada.

THEME: *Equity and Vulnerable Populations*

Presenter: *Mindy Lu*

Loneliness is linked to poor outcomes, including premature mortality. Loneliness disproportionately impacts older adults and is likely exacerbated among older immigrants as they face additional barriers to socialization (e.g., discrimination, language). Recent evidence suggests that tailored solutions to prevent and combat loneliness are needed. Our primary objective was to identify factors associated with loneliness among older immigrants and non-immigrants living in Ontario, Canada to inform intervention development.

We conducted a cross-sectional analysis of 2008/09 data from the Canadian Community Health Survey (Healthy Aging Cycle) and linked health administrative data for respondents 65 years and older residing in Ontario, Canada. Loneliness, the primary outcome, was measured using the Three-Item Loneliness Scale and immigrant status was self-reported. For immigrants and non-immigrants, we developed separate multivariable logistic regression models to assess individual, relationship and community-level factors associated with loneliness and further stratified analyses by sex. Survey sampling weights were incorporated to produce estimates representative of older adults in Ontario.

In a sample of 968 older immigrants (535,618 weighted) and 1703 non-immigrants (866,146 weighted), we found high prevalence of loneliness (30.8% and 34.0%, respectively). Shared predictors of loneliness included low social interaction and wanting to participate more in social, recreational or group activities. In older immigrants, unique factors associated with loneliness included: widowhood, poor health, more recent immigration, and lower neighbourhood-level ethnic diversity and income. Among older non-immigrants, unique factors were: female sex, poor mental health, weak sense of belonging and living alone. While female sex was not an independent factor associated with loneliness in the overall model for immigrants, we found that older immigrant women, compared to older immigrant men, had greater prevalence (39.1% vs. 21.9%) and severity score (3.9 vs. 3.5) of loneliness.

Loneliness is common among older adults, especially older immigrant women. These findings provide novel understanding of the etiology of loneliness using an intersectional lens and will inform practice and policy-making to effectively address systemic issues impacting immigrant communities.

B1.1 - "We had imagined it was going to be horrible for COVID infections, but it really was just horrible for everything else": A qualitative study of family physicians' experiences working with communities experiencing marginalisation during the COVID-19 pandem

THEME: *Primary Healthcare*

Presenter: *Sarah Spencer*

COVID-19 has required family physicians to adapt their practice to minimise transmission risks. Guidance and policy changes to facilitate public health measures have often been generic and difficult to apply, particularly for physicians working with communities that experience marginalisation. Our objective was to understand the roles and responsibilities of family physicians during the COVID-19 pandemic, and the impact of the pandemic and Canada's pandemic response on physicians' provision of care for communities experiencing marginalisation.

We conducted semi-structured qualitative interviews with 68 family physicians from four regions in Canada between October 2020 and June 2021. Interviews explored participants' roles and experiences during the pandemic, and the facilitators and barriers they encountered in continuing to support their communities of care throughout. A subset of 24 participants expressly discussed these experiences in the context of working with communities experiencing marginalisation, including people experiencing homelessness, people who use substances, resettled refugees and newcomers to Canada, and temporary foreign workers. We used a thematic approach to analyse the data.

Family physicians recognised the need to maintain in-person care for communities experiencing marginalisation to meet their continued, if not heightened, need for primary care services throughout the pandemic. Yet, public health policies and guidance documents frequently left family physicians uncertain about how to safely serve the communities with which they work, requiring them to devise innovative adaptations to their clinical settings and practice. Despite these efforts, access to services has been impacted and physicians have witnessed a range of health implications for communities experiencing marginalisation, particularly where services were restricted or deferred. Physicians have noted the myriad ways in which both broad and targeted pandemic strategies discounted the unique needs and intersecting harms of their patient populations, where COVID-19 related risks were often prioritised.

Pandemic responses focused on acute care and reducing exposure risks have undermined services and exacerbated the harms faced by communities experiencing marginalisation. Family physicians are integral to the development of pandemic responses that appreciate competing risks amongst their communities and must be included in pandemic planning for the future.

B1.2 - Nursing Practice and Teleconsultations in a Pandemic Context: A mixed methods study

THEME: *Primary Healthcare*

Presenter: *Safa Regragui*

The increased use of teleconsultation during the COVID-19 pandemic, has resulted in a transformation of practice for several providers. Even though the challenges and opportunities of teleconsultation are well documented for physicians and specialists, knowledge is still limited on their implementation in primary care nursing practice. This study aimed to explore the use of teleconsultations by nurse practitioners (NPs) and clinical nurses (CNs) in primary care settings during the pandemic, The specific objectives were to 1) Compare the use of teleconsultations' modalities between CNs and NPs and 2) Describe their implementation experience (facilitators, barriers) with teleconsultations.

A sequential mixed method study was adopted. Phase 1: A cross sectional e-survey of teleconsultations was conducted with 98 nurses (34 NPs and 64 CNs) between May and August 2020 in 48 teaching primary care clinics in Quebec. Phase 2: Semi-directive interviews were undertaken with NPs (n=6) and CNs (n=4) in the fall of 2021 in three medical clinics.

There was a very high use of telephone teleconsultations (87.1-84.5%) among NPs and CNs vs others modalities (video, 3.2-0%). The variables associated with a higher likelihood of using teleconsultations between NPs and CNs were practice years (adjusted OR: 0.365; CI: 0.163-0.818; p = .014) and pre-pandemic use of teleconsultation by phone (adjusted OR: 0.191; CI: 0.058-0.634; p=.007). Interviews showed that the majority of participants emphasized the need for teleconsultations and strong support for its implementation. Telephone, text messages and e-mail consultations were widely used by NPs and CNs. Teleconsultations were mainly used for patients living with "chronic but under control" conditions and with mental health who received follow-ups. NPs deplored the lack of use of video consultations (more similar to face-to-face care) and also indicated that the lack of technology and practice infrastructure made the use of video consultations less essential than telephone.

This study provides a portrait of teleconsultations in nursing practice by identifying the most commonly used and suggest concrete solutions to encourage their implementation in other primary care settings after the pandemic.

B1.3 - The impact of COVID-19 on primary care physicians and nurses in Nova Scotia: A qualitative exploratory study.

THEME: *Primary Healthcare*

Presenter: *Mark Embrett*

The coronavirus disease 2019 (COVID-19) has brought immense disruption worldwide, dramatically altering the ways we live, work, and learn on a day-to-day basis, however, few studies have investigated the impact on primary health care. This study aims to look at the experiences of physicians, nurse practitioners and family practice nurses (primary care providers: PCPs) in the province of Nova Scotia with the intention of understanding (1) the impact of COVID-19 on PCPs' ability to provide care, (2) their information pathways, and (3) the personal and professional impact of COVID-19.

An exploratory qualitative research design involving semi-structured interviews was employed. Twenty-four PCPs who self-identified as working in primary health care in Nova Scotia from June 2020 to April 2021 took part. Thematic analysis involving coding and classifying data according to themes was undertaken. Emergent themes were then interpreted by seeking commonalties, divergence, relationships, and overarching patterns in the data.

Interviews and subsequent analysis identified four inter-related themes within the data (1) disruption to work/life balance, (2) disruptions to "non-covid" patient care, (3) impact of provincial/centralized policies, and (4) filtering and processing an influx of information.

Findings demonstrated that managing a crisis of this magnitude requires coordination and new ways of working, balancing professional and personal life, and adapting to already implemented changes (i.e., virtual care). A specific primary care pandemic response plan is recommended to mitigate the impact of future health care crises.

B1.4 - Barriers to multi-site implementation of a train-the-trainer intervention in primary care: The case of the F2PL project

***THEME:** Knowledge Translation & Exchange (includes KTE methods)*

Presenter: *Marie-Eve Poitras*

The train-the-trainer model is an effective intervention when a large number of people need to be trained. In healthcare settings, it is particularly effective since trainees are frequently located in multiple sites. However, the inertia and various obstacles of public health networks sometimes hinders implementation of such intervention. With the rise of the learning health system (LHS) it is expected that clinicians in primary care clinics (PCC) will be increasingly trained to apply more evidence-based-practices.

Since 2019, our team has been leading the F2PL project, a train-the-trainer innovation which aims to train nurses and social workers in PCCs in the use of the new practical guides published by the Quebec government. F2PL sets up teams of trainers consisting of two patient partners, a nurse and a social worker to make the training available in PCCs. An inductive thematic analysis of the researchers' logbooks and the team members' field notes was conducted to extract the main findings related to the implementation of a train-the-trainer approach.

Organizational barriers were identified. Indeed, the type of governance and priorities vary from one PCC to another. Thus, implementation a project on multiple sites requires supplemental time and resources from the research teams to adapt interventions to each context.

Lack of a research culture in most of the PCCs inhibits innovation implementation. Many PCCs are suspicious of innovations from any other source, which leads to a reluctance to engage in research. The PCC's openness is therefore inherent in the manager in place, which is the one that decides on priorities.

Moreover, political barriers, such as the current model of user registration and governance or funding models, do not favor implementation of innovations since these activities are not prescribed by government authorities and are not recognized in terms of funding.

Engagement of PCCs is essential to move toward LHS. A culture change is needed at the governmental and organizational levels. The clinicians must be legitimated to engage in the research activities. More research is needed to inform stakeholders about the complexity of multi-site implementation in healthcare system.

B2.1 - Impact of COVID-19 on the frail population in Ontario: has linguistic factors an effect on the health outcomes?

THEME: *COVID-19*

Presenter: *Ricardo Batista*

The COVID-19 pandemic has severely affected people receiving long-term care (LTC) in nursing homes in Canada. Many studies reveal large inequities in COVID-19 outcomes among minorities and marginalized communities, but the effect of language factors on the incidence and outcomes of COVID-19 patients has not been investigated. This study examined the course of the epidemic among LTC residents by language group in Ontario and assessed the effect of linguistic characteristics on their health outcomes.

Population-based retrospective cohort of 85,367 nursing home residents in Ontario between January 15, 2019, and March 30, 2020; using linked administrative health databases. Data included demographic and health information from OHIP, LTC services data from the CCRS; information on hospitalizations, emergency, and intensive care services from DAD, NACRS databases; and COVID diagnosis from the COVID-19 Integrated Testing Data (C19INTGR) database. We described incidence of COVID-19 by language group over the first two waves of the pandemic and fitted logistic regression models to assess the effect of linguistic factors on risk of infection and health outcomes: hospitalization, ED visits, ICU care, and mortality. Main exposures were patient language, language of service, and linguistic discordant care.

Risk of COVID-19. COVID-19 incidence rates were highest among allophones. Allophones in English (22.5%) and French homes (23%) showed significantly higher rates compared to anglophones and francophones. The odds of COVID-19 were significantly higher for allophones relative to anglophones (aOR 1.45, 95%CI 1.33-1.58), as well as among those receiving linguistic discordant care (aOR 1.09, 95% CI 1.00-1.18).

Health outcomes. Allophones had the highest hospitalization rates (38.6%) and ED visits (63.8%). Francophones had significantly higher rates of ICU admissions (26.2%) and higher need of mechanical ventilation (9.8%), than anglophones and allophones. Allophones were 38% more likely to be hospitalized (aOR 1.38, 95%CI 1.31-1.46); 29% more likely to visit an ED (aOR 1.29, 95% CI 1.23-1.35), and 47% more likely to die in hospital (aOR 1.47, 95% CI 1.33-1.63), compared to anglophones.

Over the first two waves of the COVID-19 pandemic, LTC patients in linguistic minority context in Ontario had higher risk of infection and experienced worse health outcomes. These findings add to the disproportionately negative impact of the pandemic on ethnocultural minorities, highlighting the role of language barriers on the risk of poorer health outcomes.

B2.2 - Roles, impact, and working environments of public health nurses during the COVID-19 pandemic in Ontario

THEME: *COVID-19*

Presenter: *Emily Belita*

Public health nurses (PHNs) comprise the largest professional body of the public health workforce and have assumed diverse roles during the COVID-19 pandemic, reinforcing their importance in responding to public health crises. Existing literature is limited on the functions, impact, and working environment of PHNs during a pandemic. The purpose of this study is to understand the context, roles, and impact of PHNs during the COVID-19 pandemic in Ontario.

In this multiple-case study design, purposive and snowball sampling is being used to recruit frontline PHNs and nursing administrators in Ontario public health units. Cases are distinguished by three geographic settings: urban, urban-rural, northern. Within each case a sample of 10 frontline PHNs and 5-7 administrators are being recruited. Data are being collected using a demographic survey, individual semi-structured interviews with PHNs, and focus groups with nursing administrators. Transcribed interview and focus group data will be inductively analyzed using reflexive thematic analysis and cross-case synthesis to compare and contrast patterns across geographic cases.

To date, 29 individual interviews have been conducted with frontline PHNs across Ontario (19 from urban settings; 10 from urban-rural settings). This purposeful sample is uniquely positioned to reflect on the pandemic’s impact on practice given the mean years of nursing experience (M=17 years) and specifically in public health (M=13). Almost all PHNs (93%) were redeployed from their base position to another team which included diverse roles in case and contact management, outbreak management, vaccination clinics, rapid testing, COVID-19 call centres and on school teams. Recruitment of both frontline PHNs and nursing administrators is ongoing. Data analysis is ongoing and is projected to be completed by April 2022.

Study findings will provide a deeper understanding about the ever-changing roles PHNs assumed throughout the COVID-19 pandemic, barriers and facilitators to their work, and their impact on clients. Study data can support public health funding and resource decision-making and guide implementation of organizational supports for PHNs during public health crises.

B2.3 - Building A Guide To Improve Conversations with COVID-19 Vaccine Hesitant Patients

THEME: *COVID-19*

Presenter: *Myles Leslie*

Vaccination delivery and efforts to counter vaccine hesitancy (VH) have become focal issues in family medicine during the COVID-19 pandemic. Conducting action research, our team developed an interactive web-based Guide to improve clinical conversations around a broad range of VH as presented by patients. This talk presents a step-by-step account of the Guide being co-designed with its targeted end users – family physicians (FPs) – in a process that included validation interviews; role-play interviews; and user-tested design.

The Guide is based on three assumptions: 1) the decision to vaccinate is 'trust-sensitive', making long-term FP relationships pivotal for countering VH; 2) Guide uptake is contingent on sourcing VH types and counselling strategies directly from FPs; and 3) cognitive loads on FPs are reduced when counselling strategies that have been successful elsewhere are shared.

We conducted interviews with FPs that validated the types of VH described in existing literature. We then role-played patients, portraying hesitancy types and capturing FP counselling strategies. These strategies were validated against the principles of Motivational Interviewing – a well-established approach to vaccine counselling.

The advice and counselling strategies collected from FPs were organized and presented in an interactive website made available to the public. www.vhguide.ca differentiated advice into 22 hesitancy types, and provided a dedicated section for clinician-to-clinician advice. Since its launch in July 2021, more than 19,000 users have accessed the content available on the Guide, with multiple endorsements from primary care organizations, practicing providers, and Canadian medical associations. We are presently evaluating uptake patterns and user experiences, specifically targeting end users' sense of the Guide's effectiveness in reducing cognitive load and moving hesitant patients towards contemplation of the vaccination. Formal evaluation of the Guide is presently underway.

Clinicians and their experiences caring for their patients were the foundation for building the Guide. It is a patient-centric resource that was co-designed with clinicians from the ground-up, and has found broad applicability and utility with FPs across Canada as they address VH.

B2.4 - COVID Vaccine Policy Dissemination; Comparison of stakeholders' perspectives of the vehicles and barriers for health promotion messaging in Ontario, Canada and East Midlands, UK

***THEME:** COVID-19*

Presenter: *Liz Vernon-Wilson*

Background. Vaccines are the single most effective tool for resolving the COVID-19 pandemic but vaccination uptake is variable in different populations. Our research explores public health and community perspectives on vaccine policy changes, vaccine uptake efforts and initiatives to increase vaccine confidence in two different regions and countries, Ontario Canada and East Midlands, UK.

Approach. Qualitative enquiry was conducted through 1 hour semi-structured interviews of individuals representing rural and urban public health authorities, professional associations, primary healthcare providers, social care organisations and community leaders. Sixty one participants were asked about policy communication channels and actors, community level response to COVID vaccination policies and vaccine confidence building activities. Interview transcripts were coded and analysed for emerging themes using NVIVO software.

Results; Participants were of diverse age and ethnicity, (24-66 years, 35% non-white caucasian). Analysis of interviews revealed 1) government announcements and press releases provided the first point of reference for new COVID policy, typically in English. 2) Traditional news outlets and social media coverage were perceived as filling an information gap prior to local health authorities communicating implementation details or translated media becoming widely available. 3) Ontario had a more convoluted layers of policy and actors than the UK, with provincial government, multiple vaccine types and more stratified priority groups adding complexity to conveyed information. More variation led to frequent policy updates in Ontario and difficulty maintaining contemporaneous information. 4) Community efforts to increase vaccine confidence in both countries, commonly focused on removing barriers by providing education, access to and cultural contextualisation of public health messages. Clarification and interpretation of vaccination policy at organisational and community level use was felt to provoke inconsistencies in approaches, but also helped enable adaptation to local needs.

Conclusion; Simple, accessible, consistent policy messages are the mainstay of public health successes. Stakeholders in Canada and the UK sought clear communication resources in multiple languages and at different levels of complexity to facilitate uptake of Covid-19 vaccination. In Ontario, stratification of policy, frequent amendments and provision by different actors increased the perceived convolution and lack of transparency in communication.

B2.5 - Disability Rights in the Provincial Mental Health Policy Responses for Youth with Disabilities and their Families during the COVID-19 pandemic

THEME: *COVID-19*

Presenter: *Keiko Shikako*

Youth with disabilities and their families are frequent users of social and health services. Most programs have been disrupted during the COVID-19 pandemic, with a potentially serious impact on the mental health of this population. Applying a Human Rights framework to policy analysis can support the identification of important gaps and inform the creation of inclusive policies for vulnerable groups. We identified provincial and territorial COVID-19 policy responses targeting children with disabilities and their families and analyzed alignment with the UN Convention on the Rights of Persons with Disabilities commitments.

We conducted a systematic search of policies at the provincial level related to mental health and supports during the COVID-19 pandemic. We identified publicly available policies supporting children and youth with disabilities and their families. Analysis was conducted using a text mining methodology applying a UNCRPD categorization model with deductive analysis using the Office of the High Commissioner for Human Rights indicators for process, structures, and outcomes. We conducted a thematic analysis of 'Key Word in Context' text of the most highly referenced articles to identify strengths and gaps in policy documents.

There is considerable variability in the number of policies created by each province or territory to target youth with disabilities (ranging from 0 to X). Education and financial support for adults are common themes in the data. The policies are rarely specific to children with disabilities, but rather inclusive of them in addition to other populations such as children (not with specific needs) and people with chronic health conditions. The types and number of services described in the policies are notably different between provinces, and COVID-19 supports for this demographic have largely relied on existing programs, with little detail provided for how these services have been adapted to accommodate specific demands during the pandemic.

The pandemic accentuated existing gaps and lack of supports, with the added stressors and daily life disruptions for children with disabilities and their families. Policy development could benefit from a more comprehensive human rights approach to attend to the needs of equity-seeking groups and adequately respond to these needs during public health emergencies and beyond. Recovery policies should consider the specific mental health needs of children with disabilities and their families.

B3.1 - Building a case for wellness as a pillar of Health Human Resource planning: Results from the Canadian Medical Association's National Physician Health Survey

THEME: *Health Human Resources*

Presenter: *Taylor McFadden*

The COVID-19 pandemic exacerbated long-standing physician wellness challenges, further straining Canada's health system. Research shows that decreased physician wellness has a negative impact on patient care, system performance and cost. Indeed, wellness has emerged as a key pillar to incorporate in health human resource (HHR) planning. The purpose of the 2021 CMA National Physician Health Survey (NPHS) was to develop a dataset of wellness indicators, including work-related factors, for use by organizations, researchers, and policymakers.

The CMA established an Expert Working Group to help guide survey development. Members included individual experts in physician wellness, with representatives from several national organizations. Prior to data collection, ethics approval was obtained. The online survey link was distributed via multiple channels (e.g., email, social media, e-newsletters, Google Ads) to ensure maximum reach. A total of N= 4110 physicians, residents and medical students from across Canada completed the survey. This presentation will outline key HHR-related findings from the NPHS and make the case for wellness as a pillar of HHR planning as we move into post-pandemic recovery, and beyond.

Preliminary findings show that Canadian physicians, residents, and medical students are overworked, reporting an average of 52.4, 65.9, and 61.5 hours/week respectively. 50% indicated being dissatisfied or very dissatisfied with work-life integration and 46% reported having poor or marginal control over their workload. As it relates to wellness, 59% indicated that their mental health worsened since the onset of the pandemic, with 56% attributing this to increased workload and lack of work-life integration. Alarmingly, 50% of the sample reported at least one symptom of burnout. Finally, 49% indicated that it is likely or very likely that they will reduce their clinical work hours in the next 24 months. Note: advanced statistical analyses examining relationships between psychological and workplace factors will be completed by the conference.

The 2021 NPHS further supports decades of research linking physician wellness to patient care and health system performance measures, thus creating a strong case for adding wellness as a pillar in HHR planning. This will be essential in planning for sustainable health system in the post-pandemic era and beyond.

B3.2 - Professional Workplace as a Site of Production of Common Mental Health Problems: A Case of Physicians and Midwives and Their Decisions Regarding Leaves of Absence

THEME: *Health Human Resources*

Presenter: *Kelly Gregory*

Traditionally, research on occupational health and safety has focused upon physical aspects of health. Recently, mental health has begun to influence how we conceptualize the links between work and health, with increasing awareness of suicide, depression, burnout and stress among healthcare workers. This paper examines mental health problems among physicians and midwives and their decision-making regarding taking a leave of absence from work due to mental health issues.

A multi-methodological approach was undertaken. Data were drawn from a bilingual, crowd-sourced online survey available between the end of November 2020 and May 2021 (n=310 physicians and n=202 midwives) and in-depth qualitative interviews (n=34 physicians and n=44 midwives) and analyzed descriptively. The survey included several cross-cutting questions focusing on the mental health, leaves of absence and return to work pathways, as well as questions about mental health, distress, presenteeism and burnout prior to and during the pandemic. Interviews were conducted in English or French, by two interviewers via Zoom between January and July 2021. They were transcribed and analyzed thematically.

Participants from both professions identified the work environment as a key source of stress and other mental health problems. Physicians cited the nature of shift work and social isolation, especially in remote communities, as key sources of stress. Midwives cited extended on-call shifts and long commutes to access clients/practices as key challenges. Both professional groups felt a heavy burden of responsibility in their work, stigma related to help-seeking behaviours and implications of mental health diagnosis for one’s license as key barriers seeking diagnosis and treatment, and/or taking a leave of absence to deal with mental health problems. For women in both professions, the stress associated with work was also exacerbated by domestic and familial responsibilities.

These findings have implications for policy and decision-making focused on supporting healthcare professionals’ mental health and reducing presenteeism and attrition among the healthcare workforce. Key barriers for taking a leave of absence included lack of institutionalized policies for enabling leaves of absence, stigma associated with mental illness, and financial constraints.

B3.3 - Burnout, Secondary traumatic stress, and compassion satisfaction among Registered Nurses in a Canadian province

THEME: *Health Human Resources*

Presenter: *Anne Kearney*

This mixed method study explored the prevalence, predictors, and sequelae of occupational stress injury – psychological conditions related to providing front-line care - among Registered Nurses (RNs) in Newfoundland and Labrador. The Professional Quality of Life Scale (ProQOL 5) measured compassion satisfaction, burnout and secondary traumatic stress. Follow up interviews explored factors contributing to the psychological distress experienced by RNs. This is the first known study that will report specifically on RNs in this province.

3310 RNs who agreed to be contacted for research through our regulatory body received a survey package through email, including the ProQOL survey, a demographic and work-related questionnaire, and an invitation to be interviewed. Survey data collection lasted over three months in 2019. Data were analysed using SPSS. Interviews were conducted over 4 months in 2019-20 and analyzed qualitatively. The study received approval from the provincial health research ethics board. 672 surveys were analyzed (response rate 20.4%) and 21 RNs interviewed, representing all regions of the province. RNs were categorized as direct care - hospital or community, and non-direct care.

Most respondents were younger than 50 years of age, worked full time and for more than 10 years. Although most RNs reported satisfaction with current job, 43% intended to leave or were undecided. RNs reported moderate levels of compassion satisfaction, burnout, and secondary traumatic stress. Job satisfaction and being undecided about staying in one’s current job were predictors across the three subscales. Other factors including age, gender, hours worked per week, intending to leave job also significantly impacted the subscales. Direct care hospital nurses reported the highest occupational stress injury. Qualitative interviews highlighted the negative impact of high workload, forced overtime, frequent callbacks, difficulty getting time off, interpersonal conflict, and inconsistent debriefing of traumatic events as contributing to psychological distress.

Nursing retention is a key issue facing health care administrators. Targeted effort must be made to improve the working conditions of nurses so there is a stable health care workforce. This presentation will include recommendations for policy development to decrease occupational stress injury among RNs.

B3.4 - The Future of Nursing in BC: Impacts of the COVID-19 pandemic and the nursing shortage in British Columbia

THEME: *Health Human Resources*

Presenter: *Adriane Gear*

The COVID-19 pandemic has dramatically highlighted the serious shortcomings of BC's health care system — a chronic nursing shortage that has existed for years, leading to increasingly difficult working conditions for nurses in this province who are providing patient care during this public health emergency.

BCNU conducted a survey of its members in May 2021 amidst the strain of British Columbia's third COVID-19 wave. The purpose of the survey was to seek a greater understanding of the mental and physical toll the pandemic continues to have on the tens of thousands of nurses providing direct patient care to those most in need. The survey primarily focused on nurses' access to PPE, increased workload, workplace violence, nurses' intent to stay in the profession, and a variety of other workplace issues. Nearly 3,500 members (3,479) provided responses over a two-week period.

What nurses told us is that they were at a breaking point long before the COVID-19 pandemic. 35% of nurses told us this has led them to considering leaving the profession they once loved. 76% of respondents said that their workload had increased compared to before the pandemic, and 68% said that staffing was inadequate over the last three months. 65% of nurses stated that their physical health had declined and 82% said their mental health had declined throughout the pandemic. Over one third of nurses said they struggled to access the PPE they needed, and nurses working on outbreak units reported infection rates 3.4 times higher than the general population, suggesting that existing protocols were not adequate to keep nurses safe at work.

It is critical that government take action now to improve working conditions in all health care settings. Without bold leadership and significant investments, the health care system will struggle to retain educated nursing professionals — the backbone of our health-care system responsible for providing the care British Columbians need and deserve.

B3.5 - COVID-19 as a catalyst for the semi-professionalization of personal support work

THEME: *Health Human Resources*

Presenter: *Husayn Marani*

The COVID-19 pandemic has exposed fault-lines in the organization of personal support work, including low wages, part-time employment, and risky working condition, despite its essential nature in long-term care (LTC). This is, in part, because personal support work has long-existed on the fringes of what is considered health work, thereby precluding its status as a health profession.

Informed by the provision of long-term care by personal support workers (PSWs) working in LTC facilities in Ontario, Canada, this conceptual analysis draws on theories of professionalism and the logics of work control to illustrate how the pandemic may contribute to the semi-professionalization of personal support work in the future.

We speculate the pandemic will shift control of away from existing market- and hierarchical controls. At most, personal support work may undergo changes that are more characteristic of semi-professional control ("semi-professionalism"), characterized by the formation of a PSW registry that may improve role clarity, provide market shelter, and standardize wages. We do not believe this shift in control will solve all organizational problems that the pandemic has exposed, and continued market and hierarchical controls may be necessary.

Although the landscape of personal support work has been evolving throughout the pandemic, our perspectives advance limited existing scholarship concerning semi-professionalism in health work. Insights may also be useful to other jurisdictions locally or abroad where COVID-19 has exposed similar fault-lines in the organization of personal support work in LTC.

B4.1 - Investigating health service rates among residents of retirement homes: Findings from the first population-level cohort in Ontario, Canada

***THEME:** Home Care, Long Term Care and Aging*

Presenter: *Derek Manis*

Retirement homes are private residences that provide congregate care to older adults to support independent living. There are no standardized reporting systems or assessments specific to this population and setting in North America. As such, little is known about these older adults as a distinct population. We created the first population-level cohort of residents of retirement homes and examined their health service rates relative to other older adult populations.

We conducted a population-based retrospective cohort study in Ontario, Canada in 2018. The postal codes of all licensed retirement homes (n = 757) were classified and linked to individual-level health system administrative data to derive a cohort of residents of retirement homes. The outcomes of interest were rates of emergency department visits, hospitalizations, alternate levels of care (ALC) days, primary care and specialist physician visits. These rates were standardized at the level of the individual (i.e., from index to end of follow-up). A generalized linear model with a gamma distribution and log link function was used to model these rates.

Residents of retirement homes comprised two percent of the older adult population in Ontario (n = 54,773; 2.3%). After adjustment for sociodemographic characteristics and clinical comorbidities at index, residents of retirement homes had 10 times the rate of emergency department visits (Relative Rate [RR] 10.02, 95% Confidence Interval [CI] 9.83 to 10.21), 20 times the rate of hospitalizations (RR 20.43, 95% CI 20.08 to 20.78), 44 times the rate ALC days (RR 43.91, 95% CI 43.28 to 44.54), twice the rate of primary care (RR 1.99, 95% CI 1.97 to 2.02) and more than 1.5 times the rate of specialist physician visits (RR 1.62, 95% CI 1.59 to 1.65) compared to community-dwelling older adults.

Residents of retirement homes purchase health care to support independent living, yet they consume more publicly funded hospital-based care. Our findings contribute to on-going policy debates about privately financed and delivered health care, and the provision of health care in privately operated congregate care settings for older adults.

B4.2 - Pan-Canadian measurement and reporting on access to home care services

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Erin Pichora*

There is growing demand for Canadians to access health services at home or in the community. Recognizing shared priorities of improving access to home care, as well as mental health services, the Federal, Provincial and Territorial (FPT) governments committed to selecting and developing a set of twelve pan-Canadian indicators in 2017. As part of this work, data on wait times for home care services was first published in 2021 and will be updated annually.

Provincial and territorial representatives collaborated to develop the wait time indicator definition, in consultation with experts and persons with lived experience, according to the following criteria; 1) the services included in the indicator should be available across all jurisdictions and relevant to most Canadians, 2) the services should be those for which wait times are expected, and 3) the wait time should be based on data that jurisdictions can reasonably aim to capture in the near future. Jurisdictions report provincial/territorial level median wait time data matching the definition as closely as possible and have committed to improving comparability over time.

In 2019-2020, half of Canadians waited a few days for home care services, while 1 in 10 waited more than a month. Home care clients waited longer for home support services (i.e., homemaking and personal support) than for home health services (e.g., nursing, rehabilitation). More referrals were for home health than for home support (571,536 vs. 131,989). Clients with short-term home care needs (e.g., acute, rehabilitation) had the shortest wait times. Among adults, those age 65 and older waited the longest. These results are based on aggregate data submitted to CIHI by nine provinces and territories.

For the first time, provinces and territories are reporting home care wait time data based on a common definition. Together with other recently developed indicators these data will provide Canadians and health system planners with the information they need to understand and improve access to home care services.

B4.3 - "Person-centred” home care: how "rule-bending" can help fortify relationships and build trust between clients and care providers

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Lauren SPRING*

In recent years in both health care and home care, there has been a trend towards "person-centred" care. This approach aspires to dismantle outdated medical hierarchies and replace them with holistic approaches where the needs of the person receiving care are paramount. Despite “person-centred care” appearing as a catch phrase in countless health policy and training materials, minimal longitudinal research has been conducted to explore how this idea plays out in day-to-day home care realities.

Methodologically, the CIHR funded Home Care Pathways research project mirrors this “person-centred” approach as it also puts recipients at the centre of “constellations of care”. In depth interviews with each member of 12 “Care Constellations” (6 within Nova Scotia Health and 6 in Winnipeg Health Authority) were conducted 3 times over a 3-year period (2019, 2020, 2021). A care Constellations consists of the client at the centre, client’s Home Support Workers (HSW), HA assessor, and Agency Supervisors and Family Caregivers where applicable. Thematic analysis in this paper is drawn primarily from client and HSW interview at all periods (N=72 interviews)

Findings suggest that ideas about what constitutes “person-centred care” in daily practice differ for participants in important ways both within and between the two jurisdictions. Interestingly, some of the most compelling and meaningful examples HSWs and clients shared were instances where workers had officially “bent the rules” to “go above and beyond” the call of duty for their clients—recognizing that the supports and needs of their clients were beyond what daily task sheets outlined or what policies specified. These acts consistently seem to have had a positive impact on the client-worker relationship and resulted in deepened trust. In some cases, clients were hesitant to share certain examples and stories during interviews because they feared workers would be disciplined as a result.

Though person-centred care is widely referenced and celebrated in training and policy documents, how workers are expected to interpret and practice this approach remains unclear. In fact, the most powerful examples were those that went beyond prescribed best practices. These (sometimes small, sometimes bold) acts help humanize the care economy.

B4.4 - An environmental scan of the assisted living and retirement home sector in Canada

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Derek Manis*

The privately financed nature of assisted living and retirement home sector in Canada presents challenges to define it and inform the development of equitable policies that address the diverse needs of older adults. In this study, we: 1) investigate how the sector is defined and legislated in all Canadian provinces and territories; 2) identify the cost estimates associated with residency in these homes; and 3) quantify the growth of the sector.

We conducted an environmental scan of Canadian provincial and territorial websites and professional associations in 2021 to retrieve publicly available sources related to the assisted living and retirement home sector. We synthesized data that identified the taxonomy used to describe the sector; the legislative operating requirements; financing; median fees per month for care from the Canadian Mortgage and Housing Corporation's Seniors Housing Survey Data Tables; and growth of the sector in Ontario from 2012 to 2020, as historical records were available for analysis. Counts and proportions were calculated for some extracted variables. All extracted data were narratively synthesized.

The taxonomy that described the assisted living and retirement home sector varied across Canada. The terms "assisted living", "retirement homes", and "supportive living" were the most prevalent. Ontario was the only province to regulate the sector through an independent, not-for-profit organization, similar to a health care practitioner regulatory college. Ontario, British Columbia, and Alberta had some of the highest median fees for room, board, and care per month (range: $1,873 to $6,726). The licensed retirement home sector in Ontario doubled in size (768 in 2020 versus 383 in 2012), and there was a three-fold increase in the number of corporate-owned chain retirement homes (465 in 2020 versus 142 in 2012).

Older adults have diverse needs for housing, health, and social care, and the assisted living and retirement home sector will continue to play an important role in the future. Policymakers should consider how the growth of this sector may indicate a rise in a two-tier system for older adults.

B4.5 - Observer-rated assessment scales for depression evaluation in cognitively impaired older adults living in nursing homes: A systematic review

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Elodie Toulouse*

Depression recognition in nursing home (NH) patients is important for proper treatment and complication reduction (ex: physical/cognitive deterioration, caregiver/economic burden) however, accurate symptom reporting is challenged in dementia patients. To guide nurses' assessments, a screening scale allowing proxy-based completion is necessary. This systematic review aimed to identify observer-rated depression screening scales used in NH dementia patients, as well as their validity/reliability.

This systematic review was elaborated based off the National Institute for Health and Clinical Excellence's methodological guide, as well as recommendations from a scientific librarian and methodologist. The concepts of depression, dementia, elderly, observer-rated and screening scale were searched using their sub concepts and Medical subject headings in seven data banks. The filters of complete text and years ranging from 1994-01-01 to 2021-03-31 were applied prior the search process. All articles were screened by titles and abstracts in the reference management software Zotero. A double review process for relevant study inclusion and eligibility criteria guided the articles' selection.

A total of 8855 articles were initially filtered for full text and duplicates in the targeted years, leading to a total of 4704 to be screened by titles and abstracts. 11 articles were finally included and of these, 9 depression screening scales were identified, all of which had poor psychometric properties but one, the Nursing Home Short Depression Inventory (NH-SDI). This observer-rated depression screening scale was developed with the help of content experts in France and demonstrated promising preliminary results of > 85% of sensitivity/specificity/predictive values against a medical diagnosis of depression.

This systematic review allowed to identify depression screening scales and their validity/reliability when completed based off observations in nursing home dementia patients. Changes in clinical practice for depression evaluation is necessary to improve quality of care for these patients, and the NH-SDI demonstrates to be adequate to allow this result.

B5.1 - An Economic Evaluation of the Edmonton Zone Virtual Hospital Initiative

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

Presenter: *Dat Tran*

The Edmonton Zone Virtual Hospital (EZVH) initiative was launched in April 2018. The aims of EZVH are to reduce acute care hospital admissions and length of stay (LOS), and reduce unnecessary health service use in the Edmonton health zone. We conducted an economic evaluation comparing EZVH for patients with high risk for re-admissions versus usual care for a similar group of patients at brick-and-mortar facilities.

We conducted a population-based retrospective cohort study using the EZVH patient registry and Alberta administrative health data sets. We used the difference-in-difference method combined with propensity score matching. The difference-in-difference method was used to account for unobservable differences in health resource use and costs between groups, and the propensity score matching was used to create approximate balance for all the confounding factors between the two patient groups. Economic benefits of EZVH were defined as the difference of the change in the healthcare costs between one year before to one year after the index date between EZVH and usual care patients.

EZVH has potential to be cost saving to the health system. Patients admitted to EZVH had similar survival to patients admitted to usual care. However, EZVH patients had shorter hospital length of stay, consumed fewer hospital resources, and had fewer emergency department visits than usual care patients. As a result, EZVH patients incurred lower costs – at one year of follow-up, an EZVH patient consumed about CA$ 24,000 lower in healthcare costs than a usual care patient did. The overall economic benefit of EZVH is therefore dependent on its operating costs. We estimated that EZVH would be cost-saving at per-patient operating costs of CA$ 4,642 or lower, equal to an annual number of EZVH patients of 263 or higher if the current operation cost structure remained.

The EZVH model has significant potential for reducing health care costs, while maintaining care standards. In our analysis patients in the EZVH had lower costs and there was no observed differences in survival. Further research should explore patient reported outcomes in relation to the EZVH model.

B5.2 - Evaluating treatment outcomes in pharmacogenomic-guided care for depression: a rapid review and meta-analysis

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

Presenter: *Mary Bunka*

Guiding medication choices using pharmacogenomic (PGx) tests offers the prospect of improved remission and response for patients with major depressive disorder. If such patient-level benefits are realized, there will likely be system-level implications, including reduced use of the healthcare system and more cost-effective depression treatment overall. This rapid review examines treatment outcomes in patients undergoing PGx-guided treatment for depression versus unguided treatment.

Database searches in MEDLINE, Embase, PsycInfo, and CENTRAL, in addition to hand-searches, resulted in 2,289 abstracts. After removing exclusions, two reviewers independently screened 184 full-texts for inclusion. The first reviewer extracted data from randomized controlled trials (RCTs), including participant characteristics, treatment outcomes, and study discontinuation rates, conducting a critical analysis using the Cochrane Risk of Bias Version 2 (ROB2) tool. The second reviewer checked for accuracy and agreement. Random effects meta-analyses of outcomes, such as response (a 50% improvement on HAM-D17 scale) and remission (scoring in the “non-clinical” range of the HAM-D17), were conducted in R using the “meta” package.

Ten RCTs that enrolled adult patients with moderate-to-severe depression were included. Eight RCTs (n=2,341) reported remission, while seven (n=2,188) reported response. The risk ratio (RR) of remission was 1.46 (95% CI: 1.02-2.08) in the PGx-guided arm compared to treatment-as-usual. The RR of response was 1.32 (95% CI: 1.00-1.73), also in favor of the PGx-guided arm. No significant differences were found for total discontinuation, change in raw depression score, serious adverse events, withdrawal due to adverse effects, or mortality. Risk of bias was deemed high and certainty in the evidence, assessed with the GRADE method, was very low. One additional RCT assessed PGx testing in adolescents and found no significant differences on any outcomes.

Our comprehensive review of the available evidence suggests that PGx-guided care for depression is more likely to result in remission and response to treatment than treatment-as-usual. This finding is a key foundation for guiding policy and clinical decision making for use of PGx in major depression. This evidence would, of course, need to be extended to consider the associated cost and health implications of policy change. Gaps in the literature were identified and so future RCTs should examine the effects of PGx-guided care on adverse effects and long-term depression outcomes as well as impacts on diverse groups and youth.

B5.3 - Health Technology Assessment as Part of a Broader Process for Priority Setting and Resource Allocation

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

Presenter: *Craig Mitton*

Over the last two decades, economic evaluation of health technologies has developed enormously, affirming its importance within the pursuit of efficiency in the management of health care systems. One concern that has been raised with health technology assessment (HTA) has been its impact on decision making.

A key aspect of this has been the pursuit of increasingly sophisticated modelling and technical details at the expense of an oftentimes lack of appreciation of how decisions are made in practice. Here we suggest a mechanism by which HTA can be understood as an input into a broader framework for priority setting and resource allocation. This paper starts with a brief introduction to what HTA is and how it can be robustly applied within the context of a Canadian provincial Ministry of Health process for assessing new technologies. Limitations of the impact of HTA specifically as a ‘one-off’ assessment process are identified and in response a framework is put forward clearly outlining how HTA can fit in a broader priority setting framework.

The framework enables trade-offs to be made and thereby relies on both assessment of new services as well as reassessment of existing services. In fact, the explicit framework, when applied at the macro level within a health system allows for the broadest trade-offs possible while ensuring the highest quality evidence available at a given time and in a given place is incorporated into the decision making process. In this process the concept of disinvestment is dealt with directly as is the notion of relative value so systems achieve the highest return on investment. In addition, public engagement can be readily disentangled both for the HTA itself as well as in the broader application of the priority setting framework.

Decision makers the world over must decide what to fund and what not to fund. HTA has been upheld as a solution to this problem when, in reality, it is much better placed as an input into a broader approach to priority setting. Seen in this way, HTA becomes an analytical tool to provide evidence around areas to invest and disinvest as opposed to the decision point itself. The broader framework outlined in this paper has been used many times over and allows for HTA evidence to be considered.

B5.4 - Difference-in-Differences Analyses of Vaping and Smoking After E-Cigarette Flavor Bans and Nicotine Caps in Canada

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

Presenter: *Hai Nguyen*

Several jurisdictions have recently banned the use of youth-friendly flavors and limited the maximum nicotine level in e-cigarettes. These policies, however, have attracted substantial debate as critics argue that these policies will encourage substitution to cigarettes, discourage smoking cessation, and promote black markets for vaping liquids. Currently, there is little evidence to inform this debate. In this study, I evaluate the effects of flavor bans and nicotine caps for e-cigarettes by studying the experience of Nova Scotia (NS) and British Columbia (BC).

NS and BC were the first two Canadian provinces to implement e-cigarette flavor bans in April 2020 and September 2020, respectively, and nicotine caps in September 2020. I use difference-in-differences design and individual-level data from nationally-representative Canadian Tobacco Use Monitoring Surveys and its replacements, the Canadian Tobacco Alcohol & Drugs Surveys, and the Canadian Tobacco & Nicotine Surveys to compare changes in outcomes (e-cigarette use and combustible cigarette use) in NS and BC with corresponding changes in the control provinces that did not adopt these policies. Policy effects were estimated for youths aged 15-19 years and adults aged above 20 years, separately. The study periods are 2013-2020 for e-cigarette use and 2004-2020 for combustible cigarette use.

I find that compared with other provinces, youths in NS and BC were 8.1 percentage points (p=0.01) and 4.7 percentage points (p=0.04) less likely to use e-cigarettes after the implementation of these policies, representing reductions of 44% and 33% (compared with pre-policy e-cigarette use prevalence in 2019), respectively. For adults, there were also declines of 1.1 percentage points (p=0.05) or a 19% reduction in NS, and 1.7 percentage points (p=0.02) or a 45% reduction in BC. Meanwhile, these policies had no statistically significant effects on cigarette use in both age groups. The results are robust to several checks including the use of synthetic control analyses.

Youth-friendly flavor bans and nicotine caps for e-cigarettes are effective in reducing e-cigarette, especially among youths. Contrary to the fears among critics, these policies do not increase prevalence of combustible cigarette use for youths and adults.

B5.5 - Stepping towards integrated supports for family caregivers: Engaging Multi-level Interdisciplinary Stakeholders in Co-design of a Support System

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

Presenter: *Sharon Anderson*

The vision for moving integrated care closer to home to meet the needs of a growing population of older adults living with complex conditions is highly dependent on family caregivers (FCGs). FCGs provide 90% of the care, yet supports are inconsistent and FCGs are marginalized within healthcare systems. Co-design, collaboratively involving multi-level stakeholders in system (re)design or quality improvement is proposed as route building better healthcare and community systems.

FCGs and their needs are diverse and addressing FCGs distinct needs will require broad cultural, policy, and systems change. Co-design provides a useful framework for building trust, developing a common agenda, and building a system of mutually reinforcing activities to move the work of building a better system of person-centered care for family caregivers forward. We present Alberta's use of co-design as the route to building a better system of family caregiver supports. We begin with an outline of co-design and the stages. We then provide an overview of implementing co-design and what we have learned in the process.

Co-design leveraged stakeholders' knowledge and insights to develop an innovative collective impact approach to support family caregivers. Co-design proceeded in phases: 1) Developing relationships and insights; 2) Translating insights into programs; and 3) Planning spread, scale-up, and system improvements. Consultative stakeholder meetings from 2014 to 2016 led by researchers, health care leaders, and Caregivers Alberta built relationships and a foundation for change. The Cross-ministerial Caregiving Working group of policymakers from 5 ministries and multilevel caregiving influencers supplied fostered collaboration among distinct groups. Stakeholders began to translate insights into a common agenda and a mutually reinforcing plan of action. Caregivers Alberta, Caregiver-Centered Care education for the health workforce, and Norquest College's Skills Education for FCGs were prioritized. A Provincial Caregivers Coalition formed in 2019 builds relationships.

Co-designing a better system to support FCGs is an evolving process. Moving from an uncoordinated system of supports to an integrated system is still in its infancy. We are now working inclusion of the family caregiver role in policy and recognition of FCGs as partners on the receiver's care team.

B6.1 - Improving the efficiency of patient-reported outcome measurement: Procedures for developing a computerized adaptive test to assess physical functioning

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

Presenter: *Erin McCabe*

Patient-reported outcome measures (PROMs) provide valuable sources of information for clinical care, and evaluation. Ideally, a PROM should be quick to administer and gather sufficient information to assess a patient's health status accurately. Computerized adaptive testing (CAT) can achieve this balance of efficiency and precision. However, developing a new CAT is resource-intensive. In this study, we demonstrate procedures to develop a CAT for physical function (PF) using administrative data collected through legacy (i.e., fixed-format) PROMs.

We used an administrative dataset of injured workers' responses (n=1,429) to three PROMs capturing PF: Lower Extremity Functional Scale, and Short Form-36 Role-Physical, and Physical-Function subscales. After verifying that the items meet the assumptions of Item Response Theory (IRT), we used IRT to obtain item parameters. Using these parameters, CAT administers the most suitable items from a large item bank, estimating patients' health status after each response. We used computer simulations to evaluate the concurrent validity of CAT designs of varying lengths (4, 8, and 20 items). All analyses were carried out in R.

Computer simulations showed that reducing the test length from 31 items to an 8-item CAT design resulted in very little loss of information (correlation with full item set r = .96), which balanced both efficiency and precision. For the 4-item CAT design, we found r = .91, which would be useful when the efficiency of administration is more important than precision (e.g., in health system evaluations). If precision is the top priority (i.e., when capturing changes in health status within an individual over time), a 16-item CAT (r = .99) appears to be the best design. Overall, the results suggest that a CAT with a smaller subset of items (e.g., 8 items) is as accurate as the traditional PROMs with all 31 items.

We have demonstrated a feasible method of developing a CAT for physical functioning from legacy measures. We found that CATs offer flexibility in terms of balancing efficiency and precision. The procedures we outlined are straightforward and can be applied to other PROMs using freely-available packages in R.

B6.2 - Differences in virtual care access among older adults during COVID-19

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

Presenter: *Cherry Chu*

The COVID-19 pandemic led to rapid adoption of virtual care for healthcare service delivery. There are concerns that this shift would create barriers to access for vulnerable groups, such as older adults. It remains unclear how the pandemic impacted virtual care use within the older adult population, such as those who recently immigrated or have low income, and how widespread virtual care use affected the use of other healthcare services in this population.

We conducted a population-based, weekly cross-sectional study from January 2018 to March 2021 using administrative data from Ontario, Canada. All Ontario residents aged 65 and above with valid healthcare coverage were included. Virtual care use was measured for the older adult population overall and across various sociodemographic and immigration groups before and during the pandemic. We also assessed the use of key healthcare services, including hospitalizations, emergency department visits, outpatient visits, and laboratory testing, between high and low patient users of virtual care who were diagnosed with dementia.

Higher rates of virtual visits during the pandemic were found for older adults who resided in urban regions (average of 84 visits per 1000 per week). No differences in visits were found by neighbourhood income. Non-immigrants had higher virtual care use initially compared to recent immigrants (86 vs 71 visits per 1000), but rates converged as the pandemic progressed. Rates were highest among non-immigrants and English-speaking immigrants (81 and 86 visits per 1000), but lowest among immigrants who spoke neither English nor French, or only spoke French (69 and 73 visits per 1000). Among dementia patients, high virtual care users had higher healthcare utilization (e.g. 20,955 outpatient visits per week) than low virtual care users (3078 outpatient visits per week) during the pandemic.

Increased virtual care use in older adults during the pandemic suggests that virtual care helped them maintain access to care when physical interactions were limited. However, several groups, such as rural residents and non-English speaking immigrants, had lower rates of virtual care use, suggesting poorer access to care.

B6.3 - Virtual care: A major shift for physicians and patients in Canada

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

Presenter: *Marc Comeau*

As the pandemic emerged in Canada, governments introduced measures to limit the spread of COVID-19 and many physician visits shifted from in-person to virtual appointments. The shift to virtual care was rapid during the pandemic and there is currently limited information in the areas of patient access and physician uptake. We aim to describe the shift to virtual care for patients and physicians across key characteristics such as age, sex, rurality, and neighbourhood income quintile.

We conducted a descriptive analysis on all virtual care services physicians provided to patients between April 2019 and March 2021 using physician claims data from 5 Canadian provinces (Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia). To quantify the shift in physician practice patterns, we calculated the monthly proportion of services physicians provided virtually broken down by age, sex, rurality, and country of medical degree graduation, all stratified by specialty. We also quantified trends in patients accessing physician services virtually and calculated the monthly proportion of services broken down by age, sex, rurality, and neighbourhood income quintile.

In 2020, between 79% and 90% of physicians (depending on the province), provided one or more virtual services in a month compared to 35% to 80% in 2019. Between April 2020 and March 2021, the volume of virtual services increased to an average of 152 per month compared to 39 the year before. Notable variations in virtual care were found across specialty, and sex.

In 2019, virtual care accounted for between 2% and 11% of all physician services that patients received each month, depending on the province. In 2020, it increased to between 24% and 42%. Across patient demographics, virtual care varied notably across patient age groups. Small differences were observed in virtual care access across income levels.

The COVID-19 pandemic has been a catalyst for the shift to virtual care. Our findings show the increase in virtual care was widespread across various subgroups of both physicians and patients. Monthly trends in virtual care utilization show that virtual care remained significant during the first year of the pandemic.

B6.5 - Demonstrating the value and use of patient experience data

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

Presenter: *Lyubov Kushtova*

Patient experience is an important component of care with recent studies demonstrating that positive patient experiences may be associated with increased adherence to treatments, better health outcomes and reduced healthcare utilization. In 2022, CIHI publicly reported five patient experiences measures from its Canadian Patient Experiences-Inpatient Care (CPES-IC) Survey. Value and potential usefulness of patient experience data were explored through practical use cases from jurisdictions and through analysis of patient experiences data.

A mixed methods approach involving stakeholder consultations and data analysis was used. Quality improvement advisors were interviewed to identify how patient experience data is currently used to improve patient-centred care. CPES-IC survey data from 2015 to 2021 were analyzed to explore the five publicly reported patient experience measures by patient groups (e.g., age, gender) and clinical outcomes (e.g., length of stay, re-admissions). The five measures included communication with nurses, communication with doctors, involvement in decision-making and treatment options, information and understanding when leaving the hospital, and overall hospital experience.

Quality improvement advisors indicated that they use patient experience data to measure performance, identify strengths and weaknesses, conduct driver analyses, and monitor trends. This information is then used to set targets, make evidence-informed decisions, and develop action plans for quality improvement initiatives. Using CPES-IC survey data, from 2015 to 2021, approximately 375,000 survey responses were analyzed and variations in patient experiences were observed by patient groups and clinical outcomes across the five measures. Groups reporting higher overall hospital experience scores were males, patients with less than high school education, maternity patients, and those who received care at small community hospitals. Patients reporting lower overall hospital experience were older (80+ years), had longer hospital stays (7+ days), and were more likely to be re-admitted.

Patient experience data provides valuable insights for driving high-quality care. There is an opportunity to learn from organizations currently using patient experience data for system monitoring and quality improvement. Analysis of patient experience data can help identify further opportunities for improvements so that care experiences are positive for all patients.

C1.1 - Development and evaluation of an instrument to measure discharge planning processes in mental health care

THEME: *Mental Health and Addictions*

Presenter: *Sarah Xiao*

While discharge planning is essential to ensure continuity of care as mental health patients transition from hospital to community settings, there is currently little agreement on how to effectively assess the quality of discharge planning processes in mental health care. To address this knowledge gap, a multi-phase study was conducted to develop and test an instrument to measure and evaluate the quality of discharge planning processes in mental healthcare settings.

This study consisted of three phases: 1) conceptualization of discharge planning, 2) item development, structure, and format, and 3) pilot testing of the instrument. Phase I involved conducting a concept analysis and literature review to identify domains and indicators of discharge planning, focus groups with key informants to validate these findings, and a Delphi study with an expert panel to reach consensus on the most important indicators for measuring the quality of discharge planning. In Phase II, indicators that reached consensus were formatted into instrument items. In Phase III, the instrument was pilot tested through chart reviews and cognitive interviews.

The concept analysis and literature review yielded 73 quality indicators in six domains: Comprehensive Needs Assessment; Collaborative, Patient-Centered Care; Resource Availability Management; Care and Service Coordination; Discharge Planner Role; and Discharge Plan. Following the focus groups, two additional domains were created (Information Gathering and Synthesis, Patient Capacity Assessment), nine indicators were added, and three were removed. In Delphi Round 1, 37 panelists rated the importance of 79 indicators. Fifty-four were retained and the Discharge Planner Role domain was removed after this round. In Round 2, 36 panelists rated three new indicators. Two were retained, resulting in 56 indicators. In Phase II, indicators were assigned an item response option. In Phase III, the instrument was pilot tested and revised. These refinements resulted in a 57-item instrument.

The instrument developed is a first step towards assessing and evaluating discharge planning quality in mental healthcare settings. Knowledge gained from applying this instrument can provide invaluable insight into practice gaps in continuity of care and facilitate more effective policies and guidelines for safer care transitions from hospital to community.

C1.2 - New and continuing physician-based outpatient mental health care needs among children and adolescents during the COVID-19 pandemic in Ontario, Canada: a population-based repeated cross-sectional study.

THEME: *Mental Health and Addictions*

Presenter: *Natasha Saunders*

The COVID-19 pandemic and related public health measures have contributed to increased distress among children and adolescents The extent to which this distress has led to increased care-seeking among children and adolescents with pre-existing or new mental health concerns is unknown. We sought to measure and compare changes in physician-based mental health care utilization before and during the COVID-19 pandemic for those new to care and those already engaged with mental health services.

This population-based repeated cross-sectional study included all children and adolescents 3-17 years in Ontario, Canada from January 2017 to June 2021. Physician-based outpatient weekly visit rates per 1000 population for mental health diagnoses were calculated for those new to care (no outpatient or acute mental health services for ≥ 1 year) and those with ongoing care needs (any outpatient or acute mental health services within one year). Poisson generalized estimating equations modeled 3-year pre-COVID-19 trends and forecast expected trends post COVID-19 onset and estimated the change in visit rates following the onset of COVID-19 from July 2020 to June 2021.

Among 2.5 million children and adolescents (48.7% female, mean age 10.1±4.3 years), weekly mental health outpatient visit rates were 1.5/1000 population for those new to mental health care in the three years before the pandemic and 5.4/1000 for those already engaged in care. Following the pandemic onset, visit rates for both new to care and those with continuing care needs were above expected (new: adjusted rate ratio (aRR) 1.22, 95%CI 1.17, 1.26; continuing: aRR 1.09, 95%CI 1.07, 1.11). The greatest increase above expected was among females (new: aRR 1.34, 95%CI 1.27, 1.42; continuing: aRR 1.20 95%CI 1.16, 1.23) and adolescents ages 13-17 years (new: aRR 1.31, 95%CI 1.28, 1.35); continuing: aRR 1.13 95%CI 1.12, 1.15). Mood and anxiety concerns were prominent among those new to care.

In the 15-months following the pandemic onset, pediatric outpatient mental health care utilization increased for those new to mental health care and those with pre-existing mental health conditions, especially among females and adolescents. Increased system capacity is needed to respond to the increased visits rates for those new to care.

C1.3 - Overdose deaths and the COVID-19 pandemic in British Columbia

THEME: *Mental Health and Addictions*

Presenter: *Heather Palis*

British Columbia (BC) declared an overdose public health emergency in 2016. Since then, BC has consistently reported the highest overdose death rates of any province in Canada. In the context of the COVID-19 pandemic, overdose deaths in BC reached a record high in 2020. This analysis reports on changes in the profile of people who have died of overdose since BC's declaration of COVID-19 as a public health emergency on March 17th 2020.

BC Coroners Service surveillance data includes all confirmed illicit drug toxicity (overdose) deaths in BC, as determined by a medical examiner or presiding coroner. We report characteristics of overdose deaths before (March 17th- December 31st 2019) and after (March 17th- December 31st 2020) declaration of the COVID-19 public health emergency in BC. Associations between independent variables and overdose death before and after the COVID-19 public health emergency declaration were examined using Chi-square tests. Unadjusted logistic regression models were used to determine the association between each independent variable and overdose death. A multivariable logistic regression model was used to determine the association of each variable with overdose death, holding all other variables constant.

Overdose deaths observed since March 17th 2020 (N=1516) more than doubled those observed in the same period in 2019 (N=744). In the adjusted logistic regression model, the odds of death post vs. pre-COVID-19 was significantly higher among males compared to females (Odds Ratio (OR: 1.47) and among people aged 40-49 (OR: 1.33), 50-59 (OR: 1.43), and 60+ (OR: 1.65) compared to people aged 30-39. The odds of overdose death was significantly lower in public buildings (OR: 0.46), in other locations (e.g. medical facilities, correctional centres) (OR: 0.40), and higher outside (OR: 1.20) compared to private residences in the post-COVID-19 period.

Alongside a significant increase in overdose deaths, the demographics of people who have died of overdose has changed since March 2020. Ongoing overdose prevention efforts must seek to reach people who remain most isolated, including older adults, who during dual public health emergencies are facing compounded risk of preventable mortality.

C1.4 - Dentists’ Mental Health, Leave of Absence, and Return to Work: The Perspective of Practising Dentists

THEME: *Mental Health and Addictions*

Presenter: *Tala Maragha*

The mental health of dentists, like all health professionals, is a growing concern. Some professionals may resort to leaves of absence (LoA) to manage their mental health issues. This study aims to explore the reality of LoAs and Return to Work (RTW) among the dentists’ population and determine the factors shaping dentists’ decision to take a leave of absence.

An online survey was sent to all Canadian dentists along with a call for interviews. Responses from 397 dentists to the survey and 53 in-depth interviews with dentists and stakeholders were analyzed as a part of ongoing, comparative, mixed-methods study that involves six other case study professions, namely: Medicine, Nursing, Midwifery, Accounting, Academia, and Teaching.

Thirteen percent of dentists have reportedly taken a leave of absence as a result to mental health issues, making them the least likely to do so among all professional workers. Dentists experiencing mental health issues were also the least likely to return to work after taking a leave of absence in comparison to other professionals (59%). Our interviews reveal that dentists have experienced numerous challenges related to their work. However, most dentists continue to work and have not considered nor taken a leave of absence due to financial concerns, guilt towards patients and staff members, and the lack of locums. On the other hand, support from supervisors, patients, and colleagues On the other hand, support from supervisors, patients, and colleagues has reported as facilitative of the dentists' RTW.

Our findings call for providing clear policies and protocols to outline the processes of LoA and RTW for dentists, in addition to expanding the scope of organizations aiming to provide coverage and support for dentists who are considering a LoA.

C1.5 - Antipsychotic drug use and safety in Ontario children and youth

THEME: *Mental Health and Addictions*

Presenter: *Tianru Wang*

Children and youth treated with antipsychotic drugs are at risk of metabolic and endocrine adverse effects. However, few studies have examined whether antipsychotic-treated children and youth receive guideline-recommended laboratory monitoring for metabolic and endocrine adverse effects. Hence, our objective is to examine adherence to the Canadian Alliance for Monitoring Effectiveness and Safety of Antipsychotics in Children (CAMESA) guidelines in Ontario children and youth prescribed antipsychotic medications.

We are conducting a population-based cohort study of Ontario residents aged 24 and under who were newly dispensed an antipsychotic through the Ontario Health Insurance Plan Plus (OHIP+) program between April 1, 2018 and March 31, 2019. We will examine the frequency of people receiving laboratory monitoring that is consistent with the CAMESA guidelines (i.e., laboratory tests of glucose, cholesterol, triglycerides, liver enzymes, and prolactin) at baseline, and within 3 and 6 months after treatment initiation. Furthermore, we will perform logistic regression to identify variables associated with receiving the recommended laboratory monitoring, including patient age, sex, and neighbourhood income quintile.

We identified 29,034 Ontarians aged 24 and under who were newly dispensed an antipsychotic through OHIP+ during the study period. Overall, just over half of all people (51.1%, N=14,826) were female, 87.5% (N=25,414) resided in urban settings, and one-quarter (24.9%, N=7,233) lived in neighbourhoods in the lowest quintile of income. We anticipate finding significant variability in receipt of recommended laboratory monitoring, with rurality, neighbourhood income quintile, concomitant medication use, prescriber type and comorbidities significantly influencing adherence to the CAMESA guidelines. The full study results will be ready for presentation at the conference.

We expect to find regional and socioeconomic disparities in the receipt of guideline-recommended laboratory monitoring among children and youth treated with antipsychotics. This study will provide evidence to develop initiatives that will promote equitable provision of laboratory monitoring, thereby helping to reduce adverse events in children and youth prescribed antipsychotics.

C2.1 - Realist Evaluation of Knowledge Translation Program of the CHILD-BRIGHT Research Network using the Implementation Research Logic Model

THEME: *Knowledge Translation & Exchange (includes KTE methods)*

Presenter: *Sakiko Yamaguchi*

The Knowledge Translation (KT) program of the CHILD-BRIGHT Network works in partnership with research project investigators and other network programs to facilitate integrated knowledge translation (iKT) and use of stakeholder engagement strategies since 2016. In order to operationalize and better understand the processes of iKT in the context of patient-oriented research networks for families and children with disabilities, a realist evaluation of the program was conducted to elicit the context-mechanism-outcome configuration of iKT implementation.

Realist evaluation was conducted using the Implementation Research Logic Model (IRLM). Data were ascertained from project documentation records (minutes from committee and co-leads meetings, internal and funding agency reports) to identify Context (intervention characteristics, inner setting, outer setting, characteristics of individuals, and process)-Mechanism-Outcome of iKT implementation in the Consolidate Framework for Implementation Research (CFIR). The KT program co-leads including a parent partner also provided their perspectives and corroborated the findings.

Flexibility on the iKT process was crucial to enhancing stakeholder engagement. Despite the initial ambiguity of the roles of the KT program and fatigue among parent partners due to multiple asks in a network context, clear definitions of roles and adaptation to the changing needs of stakeholders increased engagement. Continuous collaboration with programs and interaction with the different elements of the network also contributed to increase engagement. On the other hand, lack of readiness, belief and values in KT as only end-of project dissemination and implementation impacted the degree of stakeholders' participation in KT program activities. The variety of stakeholders involved and the mostly virtual interactions in a pan-Canadian research network require ongoing evaluation, education, and adaptation of strategies to maintain different groups engaged.

Strategizing iKT from the beginning of the research process and flexibility to adapt KT activities and products to meet the ever-changing needs and circumstances of stakeholders contribute to meaningful stakeholder engagement in patient-oriented research. Further research on the "fit" in the relationships between stakeholders and their respective research partners is warranted.

C2.2 - How does the integration of midwives into primary care settings impact access to care? An Ontario case study

THEME: *Maternal and Child Health*

Presenter: *Liz Darling*

A recent international report recommends the integration of midwives into primary health care settings. Midwives in Canada attend more than one-tenth of births but are infrequently integrated with other primary care providers. In 2018, the Ontario Ministry of Health introduced alternative funding aimed at improving access to midwifery care and enhancing its integration into primary care. Our objective was to examine how the integration of midwives into primary care settings impacts access to care.

We used Levesque et al.'s access to care framework as the theory underpinning our research. We conducted a qualitative single case study using Yin's methodology to examine the case of the novel midwifery care models funded in Ontario in 2018. We conducted semi-structured interviews with midwives, other health professionals, health care administrators, and policymakers who were involved with the new models. We audio-recorded and transcribed the interviews and managed them in NVivo. We analysed the transcripts using both open coding and a coding framework based on Levesque's framework, and then interpreted our findings using pattern matching and explanation building.

We interviewed 35 participants. Participants spoke highly of the benefits of integrating midwives into primary care settings, particularly with respect to improving access to care for underserved populations. Our analysis revealed the following themes which touched on the five dimensions of Levesque et al.'s conceptualization of system factors that influence access to care (approachability, acceptability, availability and accommodation, affordability, and appropriateness): co-location creates comfort, visibility creates approachability, recognition and legitimization of midwifery, taking services to clients, always available, easily accessed, cost savings – reduced travel, system navigation and care coordination, and midwives specialized knowledge. Our findings explain how integrating midwives into primary care settings can improve access to midwifery care and why midwives are well suited to improve access to appropriate care for underserved populations.

The case of the novel midwifery care models funded in Ontario in 2018 provides insight into how and why the integration of midwives into primary care settings in Canada has the potential to improve access to midwifery care services and increase equity in terms of who receives midwifery care.

C2.3 - Experiences of interpersonal violence in the perinatal period among women with disabilities: A population-based cohort study

THEME: *Maternal and Child Health*

Presenter: *Hilary Brown*

Interpersonal violence is more common around the time of pregnancy, and also among women with a disability. There is less evidence about experiences of interpersonal violence among women with a disability around the perinatal period. This study compared the risk of interpersonal violence in the perinatal period among women with a physical, sensory or intellectual/developmental disability vs. those without a disability.

This population-based study comprised women aged 15-49 years with a birth in Ontario, from 2003-2019. Women with a physical (N=155,500), sensory (N=49,338), intellectual/developmental (N=2,650) or ≥2 disabilities (N=9,904) were compared to 1,701,574 women without disabilities. The main outcome was any physical, sexual, or psychological violence captured within an emergency department or hospitalization encounter, or death, arising between conception and 365 days postpartum. Relative risks (RR) were adjusted for baseline social and health characteristics, and relative excess risks due to interaction were then estimated from the joint effects of having a disability and a history of interpersonal violence preceding the pregnancy.

Relative to women without disabilities (0.5%), the risk of interpersonal violence in the perinatal period was higher in women with physical (0.8%; aRR 1.41, 95% CI 1.32-1.51), intellectual/developmental (5.2%; aRR 2.41, 95% CI 2.01-2.89), and ≥ 2 disabilities (1.8%; aRR 1.94, 95% CI 1.65-2.28), but not those with a sensory disability (0.6%; aRR 1.04, 95% CI 0.92-1.17). Among disabled women with a history of interpersonal violence, the relative excess risk due to interaction for interpersonal violence in the perinatal period was 1.74 (95% CI 1.07-2.44). Patterns of findings were similar for physical, sexual, and psychological violence separately, and for violence in pregnancy and postpartum separately.

Women with a disability are at heightened risk for interpersonal violence during pregnancy and up to 1 year after delivery, especially those with a history of violence before pregnancy. These findings have implications for health care providers, in terms of violence screening and prevention policies.

C2.4 - A Framework for Engaging Youth in Mental Health & Addictions Navigation Services and Research

THEME: *Patient and Public Engagement*

Presenter: *Simran Arora*

Mental health and/or addictions (MHA) concerns impact nearly 1.2 million Canadian youth, yet fewer than 20% of these young people access appropriate MHA treatment. MHA navigation offers a unique opportunity to address this concerning gap for youth by working with them to identify individual barriers to care and overcome these in order to effectively access and transition through suitable MHA care. However, best practices for engaging youth in MHA navigation settings are not well-understood.

This was a qualitative Community-Based Participatory Research study. The research team, including youth, sought input from key stakeholders to develop a youth engagement framework for MHA navigation services. In total, 44 interviews and 11 focus groups with 86 participants were conducted to understand participant conceptualization of youth engagement in MHA navigation, and in MHA care more broadly. Participants included service providers/decision-makers (n=27), navigation front-line staff (n= 11), youth with MHA concerns (n= 28), and caregivers of youth with MHA concerns (n=20). Transcripts were analysed using a grounded theory approach and themes were presented to stakeholder groups to gather feedback.

The research team identified 10 themes that constitute a framework for engaging youth in MHA navigation. The themes include: Youth-Centered Care; Consideration of Family; Sense of Connection; Continuity of Care; Empowering Youth; Enhancing Knowledge of Care Options; Considerations of Equity, Diversity, and Inclusion; Counteracting Stigma; Demonstrated Commitment to Youth Engagement; and Effective Evaluation. As a whole, these themes emphasize the importance of ensuring and supporting youth autonomy in their care, while providing reliable, comprehensive, and holistic support that is responsive to youths' individual contexts and needs and is delivered in a youth-friendly manner.

Youth MHA navigation services across Canada can utilize these themes to develop their own youth engagement strategies that will increase youth voice in youth mental health care.

These findings provide important considerations for youth engagement in MHA navigation. The youth-informed framework can be utilized to develop strategic plans and policy pertaining to youth engagement in MHA navigation, and in navigation services supporting youth with other health concerns more broadly.

C2.5 - The Tale of an Integrated Care Network with Strong Patient and Family Engagement.

THEME: *Patient and Public Engagement*

Presenter: *Reham Abdelhalim*

Engagement is identified as a cornerstone in the planning, delivering and evaluating of integrated care networks (partnerships between organisations to meet health needs across an area, to coordinate services and to plan in a way that improves population health and reduces inequalities). Engagement however is still a novice area that is conceptualized in various ways by researchers and integrated care networks. Engagement can be influenced by organizational culture & structure, readiness, history, funding and policies.

In 2019, the Ministry of Health and Long-term care in Ontario, Canada, announced the Ontario Health Teams as an innovative integrated care network model to deliver integrated person-centred care to Ontarians. Engagement with individuals, their caregivers and the community at large was among the main pillars of this innovation. The aim of our study was to evaluate via a multi-level case study in one OHT in Ontario the engagement strategy, activities and impact. A co-design approach was utilized in this case study where patient and caregiver advisors co-planned all the details of the case study and were co-investigators as well.

The case study has three levels of inquiry, a network level, an organization level, and a person level. The network level will be explored via document analysis related to the development and operation of the Patient and Family Advisory and interviews with its members. At the organizational level, we are exploring the readiness of each organization within the network to patient and caregiver engagement utilizing the Measuring of Organizational Readiness for patient Engagement (MORE) survey followed by interviews with representatives from each partner organizations The person level will unveil the impact of the engagement on patients, caregivers and providers utilizing the Public and Patient Engagement Evaluation Tool (PPEET).

The study is in progress and the findings will be available for the conference in May

Given the comprehensiveness of this case study, the results can inform other related initiatives on how to a) assess the readiness of various partners within a network to implementing engagement strategies, b) barriers and facilitators to implementation and operationalization and c) impact of engagement on patients, caregivers and providers.

C3.1 - 99 problems (but a visit's just one): Understanding changes in visit volume among family physicians in British Columbia

THEME: *Primary Healthcare*

Presenter: *Ruth Lavergne*

Family physicians (FPs) are central to health systems, providing access to primary care and coordinating services received elsewhere. While FPs per-capita are increasing, patient visits per-FP are falling. Of course visit counts do not directly measure workload, and FPs are reporting record levels of overwork and exhaustion. We explore changes in the number of FPs delivering community-based comprehensive care, and describe changing patterns of service volume coinciding with declining visits that may shape FP workload.

We use linked administrative data in British Columbia (BC) to estimate the number of FPs delivering community-based comprehensive care in 1999/2000 and 2017/8. We then quantify changes in annual service that would require FP coordination, review, administration, and/or follow-up, specifically: unique prescription dispensed (ATC 4th level), days with laboratory tests ordered, emergency department visits, and specialist visits. We report changes in service volume per-capita, per family physician, per community-based family physician, per family physician visit, and per community-based family physician visit. Finally, we illustrate how changes in service volume coincide with population aging.

Between 1999/2000 and 2017/2018 the number of FPs per-capita has grown from 9.7 to 11.1 per 10,000 people in BC, but the number in comprehensive, community-based practice has remained constant at 9.1 per 10,000 people. Other services per-capita have all increased: different prescriptions from 2.5 to 3.2, days with labs from 1.4 to 1.6, emergency department visits from 0.30 to 0.39, medical specialist visits from 0.96 to 1.23, and surgical specialist visits from 0.78 to 0.94. When expressed per community-based FP, and particularly per community-based FP patient visit, the increases are dramatic. Increases in service volume are greatest among patients ages 80 and older, a rapidly-growing population segment.

When focusing on the FP physician workforce in community-based comprehensive practice, and exploring service volume per FP visit, the potential increases in workload associated with coordination of care for each visit are dramatic. The contribution of population aging to primary care workload may be substantial and requires further examination.

C3.2 - The Impact of Primary Care Physician Continuity on Patients with COPD and Heart Failure

THEME: *Primary Healthcare*

Presenter: *Terrence McDonald*

Family physicians (FP) play a vital role in managing patients with chronic obstructive pulmonary disease (COPD) and heart failure (HF). Much emphasis has been placed on care pathways which involve community FPs caring for patients following hospitalization or treatment in the Emergency Department (ED). Our objective is to understand whether COPD and HF patients who seek care from one main FP (high continuity) or multiple FPs (lower continuity) differ in their likelihood of re-admission.

We conducted a retrospective observational study of all FPs and COPD and HF patients in Alberta from 2017-18 to explore the association between patient health outcomes and three levels of provider continuity. FP claims data were linked to patients' ED and inpatient encounters. Usual provider care index (UPC) was calculated for each provider. All patients who had an ED or hospital visit for COPD or HF who did not have a prior visit in the 3 months leading up were included. Multivariate negative binomial model controlling for patient and physician characteristics was completed. Results were stratified by level of continuity

Outcome Measures: 30-day ED and hospital re-admission for COPD or HF.

Multivariate regression modelling showed that high continuity (UPC 80-100%) has a protective effect, for both COPD and HF patients, relative to low continuity (UPC 0-40%). Specifically, relative to low continuity, COPD patients with high continuity had 0.43 (0.33-0.55, p-value 0.000) times the odds of being readmitted to the ED, and 0.32 (0.18-0.57, p-value 0.000) odds of hospital readmission. Similarly, relative to low continuity, HF patients with high continuity had 0.64 (0.49-0.82, p-value 0.001) times the odds of repeat ED visit, and 0.48 (0.30-0.77, p-value 0.002) odds of hospital readmission.

COPD and HF patients who seek care from primarily one main FP have reduced readmission for ED visits and hospitalizations broadly across patient characteristics.

C3.3 - “Comprehensive, except for deliveries”: Influences on the intentions for obstetric practice among family physicians and residents in Canada

THEME: *Primary Healthcare*

Presenter: *Emily Gard Marshall*

Family physicians are trained to offer comprehensive healthcare. Although their scope of practice includes offering full obstetric care (prenatal, intrapartum/deliveries, and postpartum), many FPs do not provide intrapartum/deliveries as part of their practice. Individual-level preference alone may not account for the low proportion of family physicians who provide full obstetric care. We present perspectives of family practice residents and early-career family physicians on factors influencing their decision to provide full obstetrics.

As part of the ECPC Study, (Early Career Primary Care), semi-structured interviews were conducted with family medicine residents (n=31) and early career family physicians (n=63) across three provinces (British Columbia, Ontario, and Nova Scotia), with representation across diverse practice characteristics, demographics, and geographic regions. Interviews were transcribed verbatim and coded using NVivo software. Thematic analysis was conducted to identify themes pertaining to factors influencing the decision to provide obstetric care. Themes were organized according to the ecological model to identify actionable factors at the public policy, community, organization, interpersonal, and individual level.

Most participants provided less obstetric care than desired. Our analysis identified several public policy deterrents, including liability concerns and questions about the most appropriate obstetrics provider. Community-level influences included community health needs and the availability of other providers. Organizational influences on obstetrics provision included the disruption of obstetrics on regular practice and the enabling effect of working in teams. Sufficient exposure to obstetrics during training likewise was an enabler but perceived “institutional inertia” against male trainees was a major deterrent. At the interpersonal level, participants were discouraged from providing obstetric care due to its impact on their family lives and negative interactions with other providers. At the individual level, many participants noted that, for them, comprehensive family practice does not necessarily include obstetric care.

Personal preference alone does not account for the low number of family physicians providing obstetrics care. If system decision-makers wish to encourage greater provision of obstetrics by family physicians, interventions would best address all levels of the ecological model.

C3.4 - The V1SAGES approach: improving care for people with complex needs and healthcare system efficiency

THEME: *Primary Healthcare*

Presenter: *Catherine Hudon*

Eighteen percent of people in primary healthcare face multiple interacting challenges among physical, mental and social health, experiencing the most complex needs, including decreased quality of life, and increased disability and mortality risk. Organization of services for adults with complex needs calls for integrated care. This presentation aims to present the V1SAGES approach and toolkit, an evidence-based model of care aiming to improve integrated care for adults with complex needs.

We developed the V1SAGES approach based on many evidence, with a participatory method involving various stakeholders: 1) literature reviews: scoping review (Hudon et al. 2016); thematic analysis review (Hudon et al. 2017); systematic review (Hudon et al. 2019); realist synthesis (Hudon et al. 2020); 2) qualitative studies (Hudon et al. 2015; Chouinard et al. 2021); 3) case studies (Hudon et al. 2014 and 2021); 4) a randomized controlled trial (Hudon et al. 2018); 5) logic analysis (Hudon et al. 2020) and logic model (Hudon et al. 2021); and 6) validation of a case finding tool (Hudon et al. 2021).

The whole approach includes case managers in hospital settings supporting care navigators in primary care to: 1) identify adults with complex needs; 2) assess their needs, life project and preferences in terms of care services; 3) organize an individualized services plan (ISP) meeting with appropriate partners of the hospital, primary care clinic and community services; 4) systematically coordinate care among all providers according to the ISP and become the main point of contact for the person; 5) offer self-management support and education to the person and family. The toolkit includes 5 web learning modules for case managers and navigators, the CONECT-6 case finding tool, the standards of care explaining the approach step by step, all clinical tools to collect appropriate information and develop the ISP.

The evidence-based V1SAGES approach could be useful for Canadian researchers, clinicians, and decision-makers engaged with improving the health of people with complex needs, their experiences of integrated care, and their satisfaction with care services. This methodology could also improve the healthcare system's efficiency and reduce its economic burden.

C3.5 - “When you’re in the office, it means you managed to get somewhere”: Perceptions of adolescents experiencing a mental illness of accessing primary care for mental health services

THEME: *Primary Healthcare*

Presenter: *Lisa De Panfilis*

As primary care can be an ideal setting for accessing mental health services to prevent symptoms from worsening, examining adolescents’ perceptions of access is critical to understanding how primary care is accommodating their mental health needs. The purpose of this study was to explore the perceptions of adolescents, living in Hamilton, Ontario, with an anxiety or mood disorder, of accessing primary care for mental health services.

Qualitative interpretive descriptive methods were utilized. Data collection included: demographic survey, semi-structured interviews, photo-elicitation project, field notes, and reflexive journaling. Analysis was guided by an access framework by Penchansky and Thomas (1981) and an ecological model by McLeroy and colleagues (1988). Adolescents' experiences were analyzed alongside photos that represented their perceptions.

Adolescents ages 15 to 18 years (n=10) participated. Adolescents perceived access to primary care for mental health services as a difficult and complex process involving multiple stages including: feeling uncertain about their mental health concerns and if they required help, seeking informal support from parents and friends to initiate receiving help, and obtaining mental health services from primary care. A conceptual framework was created to depict the access journey adolescents described as part of their recovery, as well as to account for the large portion of the access process which occurred prior to entering the primary care environment.

Implications for primary care practitioners include: addressing adolescents’ emerging adulthood through implementing an individualized approach, providing information to adolescents and parents about mental health and services during routine interactions, and developing relationships with local organizations and schools to provide information regarding services to support early identification and intervention.

C4.1 - Comparison of Provincial COVID-19 Vaccination Rollout Approaches

THEME: *COVID-19*

Presenter: *Shelby Rowein*

We leveraged variations in provincial COVID-19 vaccination programs to identify promising practices and implementation lessons as provinces continue their campaigns to administer primary doses and boosters to all eligible persons. Early in the pandemic, federal, provincial, and territorial leaders concluded that mass vaccination is key to protecting Canadians and slowing the spread of the virus. Health Canada first approved a COVID vaccine in December 2020 and soon thereafter each jurisdiction rolled it out to adults.

We adapted the WHO COVID-19 Response Monitor template to focus on vaccination policies in Canada. First, we collected data on the following components of vaccination campaigns in British Columbia (BC), Saskatchewan, Ontario and Nova Scotia: principles and goals; governance and authority; communications; infrastructure and workforce capacity; vaccine entitlement and access; and measures taken in other sectors to increase uptake. We focused on delivery of the primary two-dose vaccination series to adults through December 2021. We drew from publicly available documents, media reports, and unpublished materials provided by local experts. We compared and contrasted each province’s roll-out components.

Significant differences in vaccination roll-out campaigns were found across the four provinces. For example, booking and administrative approaches varied: Nova Scotia and BC booked vaccination appointments through one centralized system (e.g., CanImmunize), whereas Ontario and Saskatchewan decentralized the booking process. Governance strategies also varied. Leadership was highly centralized in all provinces except Ontario, which had a decentralized and regionalized leadership strategy consistent with its decentralized public health system. Vaccination was provincially mandated for health care workers in all provinces except of Ontario. Nova Scotia was first to achieve their goal of vaccinating 75% of the entire population. Ontario and BC reached this shared goal later. As of the end of 2021, Saskatchewan had yet to achieve 75% coverage.

We identified lessons to support ongoing vaccination efforts. Centralized strategies are most promising as demonstrated by the relative success of Nova Scotia and BC. As the COVID-19 pandemic continues to evolve, cross-jurisdictional learning could inform provinces’ efforts to delivery primary doses and boosters to all ages.

C4.2 - Early Impacts of the COVID-19 Pandemic on Public Health Systems and Practice in Alberta, Ontario, and Québec: Insights from Public Health Leaders

THEME: *COVID-19*

Presenter: *Harman Sandhu*

The COVID-19 pandemic has impacted health systems worldwide. Literature characterizing the implications of these impacts has largely focused on the health care system with less attention on public health systems and practice. The objective of our research was to describe the early impacts of COVID-19 on public health systems and practice in the provinces of Alberta, Ontario, and Québec from the perspective of public health system leaders and to summarize learnings to inform potential reforms.

We conducted a qualitative study based on multiple case studies. Semi-structured interviews were conducted with 58 public health system leaders from Alberta (n = 21), Ontario (n = 18) and Québec (n = 19) between October 2020 and April 2021. These provinces were chosen for their large populations, relatively high COVID-19 burden, and variation in public health systems. Public health leaders were individuals who worked in organizations with a mandate of stewardship/administration of essential public health operations. Our conceptualization of essential public health operations, data collection, and analysis was guided by the World Health Organization's essential public health operations framework.

Opportunities and challenges emerged in two cross-cutting major themes: (1) intensified collaboration within and beyond the health system; and (2) changes in public health workforce capacity. Three minor themes are also highlighted: (1) investment in information systems and digital technologies; (2) increased public health leaders' proximity to health sector leaders; and (3) increased appreciation for public health work. The COVID-19 pandemic affected various features of public health systems and practice in the provinces studied. Many changes related to strengthened collaboration, investment in public health human resources, and advanced information technology were seen as beneficial. But these changes also came with challenges including workforce burnout and disruption to non-COVID-19 services.

Our findings highlight a variety of challenges and opportunities across many impacts that the COVID-19 pandemic has had on Alberta, Ontario, and Québec's public health systems. Focusing on maintaining the positive impacts and addressing related challenges could help improve future public health system structures and operations.

C4.3 - Virtual care use during waves of the COVID-19 pandemic in Ontario: a retrospective cohort study

THEME: *COVID-19*

Presenter: *Vess Stamenova*

Two years into the pandemic, virtual visits have become an integral part of healthcare both in Canada and abroad. Past studies in Ontario have reported that 70% of all ambulatory care was virtual during the first 3 months of the pandemic. The goal of this study is to provide an update on the level of use of virtual care in Ontario over the subsequent waves of the COVID-19 pandemic.

We conducted a repeated cross-sectional study examining the weekly number of virtual care visits across Ontario from January 1, 2018 to June 27, 2021. We used administrative claims data from ICES, specifically Ontario Health Insurance Plan (OHIP) billing codes, to assess the total number of virtual care visits per week. Secondary analyses stratified analysis by sociodemographic factors (age, gender, neighborhood income quintile, rurality).

During the pandemic, between March 16, 2020 and June 27, 2021, among all residents in Ontario, 58% of all ambulatory care was conducted virtually (compared to 1.6% pre-Covid-19). During the first wave of the pandemic virtual care made up 74% of all ambulatory care (mid-March to end of May 2020), but in the summer of 2020 the virtual care and in-person care began carrying equal loads of all ambulatory care. The second and third waves of the pandemic drove virtual care use slightly higher, however utilization only reached a maximum of 60% of all ambulatory care. Greater fluctuations in virtual care were seen across waves among older adults and primary care, but none were observed by various income level group, sex, and rurality.

Virtual care has allowed continued access to ambulatory care in the Ontario population throughout the pandemic. Ambulatory care was being delivered using an equal balance of in-person and virtual visits. Virtual care load increased only slightly during times of increased prevalence of COVID-19 within the population when compared to the first wave. Future work should continue monitoring the prevalence of virtual care and assess its long-term impacts on health outcomes.

C4.4 - Centralization and integration of public health systems: Perspectives of public health leaders on systematic barriers and enablers to COVID-19 responses in three Canadian provinces

THEME: Health Policy, Healthcare Reform (includes priority setting, politics)

Presenter: *Sara Allin*

The level of centralization of authority in public health (PH) systems and extent that PH functions are integrated with health care services may shape pandemic responses. While centralization may facilitate coordinated actions, decentralization allows for tailored actions to local community needs. Integration may enable rapid redistribution of resources, though PH programs may be de-prioritized in favour of urgent treatment needs. This study examines the impacts of centralization and integration on COVID-19 pandemic responses.

We used qualitative case studies to examine how PH systems structures were perceived by PH leaders to facilitate or impede effective COVID-19 responses. Three provinces were included to maximize variation in PH system decentralization and integration: highly centralized and integrated (Alberta); moderately centralized and integrated (Quebec); and decentralized and not integrated (Ontario). Between December 2020 and April 2021, we conducted 58 semi-structured interviews with PH system leaders in the three provinces, including elected officials, government workers, medical officers of health (MOHs), health services and public health administrators, and conducted in-depth inductive thematic analysis within and across cases.

Greater centralization and integration (in Alberta and Quebec) were seen to facilitate more timely and well-coordinated province-wide responses, e.g., with a clear cascade of authority from Minister to Chief Medical Officer to MOH, and to swiftly reallocate resources across sectors, yet there was limited autonomy to directly communicate with local communities and to collaborate with multi-sectoral partners. In contrast, the decentralized PH system in Ontario was perceived as enabling timely localized responses with multi-sectoral partners (especially with those beyond healthcare) in the context of limited provincial guidance and leadership. Cross-cutting themes emerged as barriers to effective pandemic responses across all three provinces included lack of transparency in provincial decision-making processes, jurisdictional ambiguity impacting Indigenous communities' COVID responses, and ineffectual investments in PH.

Our study generates novel insights about potential system-level facilitators and impediments to effective COVID-19 pandemic responses. Findings highlight key areas for future research to inform PH system design that support PH leaders to manage large-scale infectious disease outbreaks. Future work can incorporate perspectives from other stakeholders involved in pandemic responses.

C4.5 - Cost drivers during the COVID-19 pandemic: breaking down the factors behind cost growth for Canada's public and private drug plans in 2020-2021

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

Presenter: *Yvonne Zhang*

Canadian public drug plans and private insurers together account for over three quarters of all prescribed drug spending in Canada. This presentation sheds light on the differences and similarities between key cost pressures for public and private drug plans, differentiating between short-term effects and those with longer-lasting impacts. With a focus on data from March 2020 onward, the study examines the impact of the first year of the COVID-19 pandemic on Canadian drug spending.

Using public plan data from the NPDUIS Database at the Canadian Institute for Health Information (CIHI) and private plan data from the IQVIA Private Pay Direct Drug Plan Database, a sophisticated cost driver model isolates the key factors contributing to the growth in drug expenditures: demographic, volume, price, substitution (generic and biosimilar), and drug-mix. The study focuses on 2020 and 2021, with a retrospective look at recent trends.

Increased use of newer and more expensive drugs is the primary driver of drug cost growth, pushing costs up by 5%–6% annually. Medicines with costs over $10,000 per year now account for more than 1/3 of total drug costs in both public and private drug plans. Cost savings from generic and biosimilar substitution, as well as price reductions, have stabilized in recent years and no longer offset the increasing cost pressures from the drug-mix effect. Due to the COVID-19 pandemic, 2020–2021 was notable for its decrease in the number of beneficiaries with claims, exerting downward cost pressure on both types of plans, though this was more than offset by a sizable increase in the number of claims per patient, which pushed spending upwards.

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

C5.1 - Engaging youth, parents and clinicians to co-design discharge communication tools for pediatric emergency department settings

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Mari Somerville*

Over 4 million children and youth visit a Canadian emergency department (ED) each year, with the majority given important health information and post-visit care instructions before they leave. However, discharge communication is often poorly delivered or misunderstood by patients and families, leading to adverse events or unnecessary return trips to the ED. The aim of this study was to work with children, youth, parents and clinicians to co-design discharge communication interventions for pediatric EDs.

Co-design methods were used to engage patients, clinicians and researchers to develop electronic discharge communication interventions for asthma and concussion; both common ED presentations. Co-design teams participated in seven structured virtual meetings to create the tools. Meetings were facilitated by a parent and researcher and were highly interactive; including exploration of barriers and enablers related to discharge communication from multiple sources. Engagement between meetings was facilitated through email. Co-design teams discussed feedback elicited during two cycles of usability testing with potential end users. Pre-post data was collected at each meeting to monitor participation and satisfaction with the co-design process.

Two functioning discharge communication tools were created through the co-design process. The asthma team included eight members; two youth, two parents and three ED clinicians. Their co-designed tool aimed to help patients/caregivers feel more confident about visiting the ED during an asthma episode. The concussion team included eight different members; two youth, two parents and four ED clinicians. Their co-designed tool aimed to help patients/caregivers monitor post-concussive symptoms after leaving the ED. Both teams were highly engaged, with representation from each target group, and an average of 6 attendees at every meeting. Youth, parents and clinicians contributed equally during meetings and all design decisions were achieved through consensus. Usability data from youth, parents and ED clinicians from two Canadian provinces contributed to further tool refinement.

Youth, parents and clinicians were highly engaged in co-designing discharge communication tools for asthma and concussion, with one youth co-design team member also contributing to the usability testing process to enhance further youth engagement. The feasibility and acceptability of the co-designed tools will be further evaluated in future research.

C5.2 - Evidence on the impact of prehabilitation program on postoperative outcomes: HTA review

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

Presenter: *Thiphavone Oudanonh*

Postoperative morbidity is still common following surgery. Patients with poor physical capacity are more likely to develop postoperative complications. Prehabilitation aims to improve patient preoperative physical capacity to better withstand the surgical stress. Several studies have examined the association between prehabilitation and postoperative outcomes without reaching a clear consensus. The objective of this health technology assessment (HTA) review was to evaluate the evidence on the effectiveness of prehabilitation on postoperative outcomes in several surgical populations.

A systematic search was performed in PubMed, MEDLINE, Cochrane database and HTA database of the Centre for Reviews and Dissemination. Systematic reviews and meta-analyses, in English or French, that assessed prehabilitation consisting of physical training with or without other components (psychological support, nutritional supplementation, education) in adult patients scheduled for surgery were included and appraised for the quality of evidence. The comparative group was standard care or sham intervention. Postoperative outcomes were limited to functional capacity, overall complications, pulmonary complications, hospital length of stay (LOS), quality of life (QoL), pain, mortality and readmission. All surgical populations were considered.

A total of 47 Systematic reviews and meta-analyses assessing prehabilitation in 12 surgical populations met our inclusion criteria. Several of them have overlapping primary studies. Low quality of evidence suggests that prehabilitation might reduce complications (overall or pulmonary) and LOS in patients undergoing lung surgery. Low and low-to-moderate quality of evidence shows that prehabilitation could reduce complications (overall or pulmonary) and LOS in patients undergoing cardiac or cardiothoracic/upper abdominal surgery. Low and low-to-moderate quality of evidence shows that trimodal prehabilitation could improve the walking capacity in patients undergoing abdominal, colorectal or gastrointestinal surgery.

Our review of the large volume of data but with mostly poor quality of evidence indicates that prehabilitation consisting of physical training with or without other components could be beneficial in improving postoperative outcomes in adult patients in certain surgical populations. Higher quality evidence is needed to confirm these results.

C5.3 - What Happens When Health Care, Social Care, and Housing Providers Come Together? A Case Study of the Facilitators, Barriers, and Experiences of the Community Wellness Hub

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Chi-Ling Sinn*

The Community Wellness Hub is a collaboration of health and social care and housing providers that work together to (1) proactively meet people’s physical, mental, and social needs using community resources, and (2) offer a range of transitional and residential options. Located in a subsidised apartment building, tenants joining the Hub are connected with a Wellness Coordinator, access activities and resources (e.g., virtual lending library), and can consent to sharing health information within their circle of care.

Two embedded researchers are conducting an exploratory case study on provider and resident/caregiver perspectives. Providers’ perspectives will be explored via a series of focus groups focusing on the facilitators and barriers encountered while designing and implementing this innovative collaborative model. Residents and caregivers’ perspectives will be explored via interviews focusing on their experiences with the Hub. Documents related to the implementation and operation of the Hub will be analysed to provide a detailed description of the intervention. Additionally, one of the embedded researchers will conduct an on-site observation to understand the daily interactions between providers and residents/caregivers within the Hub.

In this case study, we will highlight multiple perspectives: health care, social care, and housing providers; those involved in leadership, operational, and service delivery roles; as well as the perspectives of residents and their caregivers. Providers are anticipated to speak about changes in awareness and understanding of the roles and contributions of other sectors and how this might facilitate coordinating residents’ care. Experiences of residents and caregivers will reflect on what worked well and areas where there is room for improvement.

The Community Wellness Hub is founded on strong leadership and relationship building across sectors as well as a shared commitment to learn and grow together. This is reflected in improved service coordination and enhanced resident, caregiver, and provider experiences.

C5.4 - A local system response to COVID19 Pandemic: Lessons learned for advancing an integrated care

THEME: *Collaborative Healthcare Improvement Partnerships*

Presenter: *Anne Wojtak*

East Toronto Health Partners (ETHP) is comprised of 50+ health and social organizations in East Toronto, with a leadership council consisting of patient/caregivers and six anchor organizations representing the continuum of care. ETHP is implementing a new model of integrated care (IC) and the stakeholders of ETHP collaborated to respond to the pandemic since March of 2020. We evaluated ETHP's collective response to the COVID19 pandemic.

The main objective of this evaluation was to understand and document ETHP integrated response to the COVID-19 pandemic from a partners and staff perspective. We interviewed 30 key informants, who have been identified as playing critical roles in the East Toronto COVID-19 response across acute care, home care, community care, and long-term care. The semi-structured interviews were designed to learn about the ETHP COVID-19 strategy and impact of the response, and lessons learned moving forward for advancing a new model of IC in East Toronto.

The main building blocks of our response included, but not limited to, caring and critical roles of champions, innovation and risk taking, distributed leadership, distributed knowledge and capacity building, community and clinicians' leadership, leveraging existing relationships and building new partnerships, agility and nimbleness, active use of data for planning, taking an equity lens in shaping our response, and advocacy on behalf of our community. Participants identified missed opportunities including advocacy for broader health care reforms; better (re)allocation of resources for mental health needs and food security; and fully catalyzing our relationship with government agencies. The main implications for advancing the new integrated model of care within ETHP are to continue using the structures built during COVID19 to not only support infectious disease but also chronic disease management, as well as a greater focus on population health and integrated of health and social care s

Lessons learned from this evaluation will be used to inform the ongoing COVID-19 strategy as well as next steps in the development of integrated health and social care (Ontario Health Team) in East Toronto.

C5.5 - Solutions for Kids in Pain (SKIP): Improving children’s pain in Canadian health institutions through coordination and collaboration

THEME: *Knowledge Translation & Exchange (includes KTE methods)*

Presenter: *Kathryn Birnie*

More than 60% of hospitalized children experience undertreated and preventable pain, while 1 in 5 children develop chronic pain (including persistent post-operative pain). Canada is a world leader in children’s pain research, but this knowledge is not being used. Solutions for Kids in Pain (SKIP) is a Networks of Centres of Excellence-funded knowledge mobilization network. Our mission is to improve children's pain management by mobilizing evidence-based solutions through coordination and collaboration.

SKIP brings together a community of Canada's world-renowned pediatric pain researchers, front-line knowledge users and organizations, and patients and caregivers. Guided by diverse and experienced Board members, SKIP capitalizes on the engagement of five regional hubs, 48 Children’s Healthcare Canada member organizations, over 100 partners, and patients and caregivers using a “Patients Included” approach to collaborate and co-produce interconnected knowledge mobilization activities. Embedded work by SKIP’s regional hubs located in Halifax (IWK Health Centre), Montreal (CHU Sainte-Justine), Ottawa (Children’s Healthcare Canada), Toronto (SickKids), and Edmonton (Stollery Children’s Hospital) is carried out by hub leads and knowledge brokers.

SKIP’s goals are to: (1) confirm knowledge user needs (including patients, caregivers, health professionals, administrators, policymakers) and organize current resources and evidence; (2) produce and promote tools to address diverse knowledge user needs; (3) facilitate institutional change by assisting knowledge users to access, adapt, and implement evidence; and (4) increase awareness and urgency about pain in children. In its first two years, SKIP has co-produced 136 tools/resources, engaged pain champions at >27 children’s health institutions, supported 9 children’s health institutions towards ChildKind certification, given >50 presentations/workshops/conferences, had 75 media engagements, and reached >1.4 million knowledge users. Developing a novel pediatric pain management health standard with the Health Standards Organization will further enable equitable, evidence-informed, and patient-centered pain management for children in Canada (expected 2022 publication).

There has never been a better time to improve children’s pain management in Canada. SKIP is an innovative national knowledge mobilization network that harnesses partnerships with patients and caregivers, health professionals, administrators, and policymakers to bridge the gap between current treatment practices and available evidence-based solutions for children's pain.

C6.1 - DRAGONFLY (builDing Resilience And respondinG tO seNior FraiLtY)

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

Presenter: *Tammy O'Rourke*

Frailty assessment in community typically occurs in primary care offices. The DRAGONFLY program developed and implemented a model for frailty screening, assessment, and response led by primary care providers embedded within a senior serving community-based organization in Northern Alberta. The objective was to increase frailty screening within a community-based organization, improve follow-up assessment of moderately frail seniors living in community and develop individualized frailty response plans based on a social and clinical prescription template.

A quality improvement approach using PDSA cycles was used to develop, pilot and revise frailty screening, assessment, and response by an interdisciplinary team. Stakeholders at various levels of the organization were included in the development of this quality improvement project and feedback was sought at every decision point. A variety of community providers were trained in frailty assessment and a social worker co-ordinated the completion of second level assessments for those seniors identified as moderately frail. Frailty responses were individualized and included a variety of clinical and social prescription.

A total of 101 seniors were screened for frailty using both in-person and virtual methods. Over half of these seniors were identified as moderately frail, requiring additional assessment. These seniors received social and clinical prescriptions and on-going follow-up. A total of 135 social prescriptions and 72 clinical prescriptions were provided to this group of frail seniors living in community. Pilot data suggests these prescriptions improved resilience in this group.

Frailty can be addressed in sites other than primary care. Programs such as DRAGONFLY can support the work being done in senior serving community-based organizations to recognize and respond to frailty earlier. These organizations can assist with early interventions, including social prescriptions to maintain seniors in their homes longer.

C6.2 - Islands in the data streams: crafting evaluation approaches in Ontario Health Teams when policy lags vision

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

Presenter: *Adora Chui*

Ontario Health Teams (OHT) are the current approach to integrated care (IC), an assembly of partner organizations working collaboratively to address population health. Data is required for both function and evaluation, but traditional structures and siloed information can inhibit information sharing. Challenges in selecting, accessing, and harvesting datasets present barriers for program and policy planning. Without a developmental understanding of barriers to evaluation, OHTs will struggle to mature and provide care that is truly integrated.

We present a multiple case study within three OHTs: Muskoka and Area OHT, North Toronto OHT, and North York Toronto Health Partners. We are embedded research fellows in the inaugural cohort of the OHT Impact Fellowship, a year-long program created through government-university partnership to embed highly qualified personnel within OHTs for research and analytic support. This presentation describes our challenges and opportunities of harvesting datasets to support IC transformation in our respective contexts. We summarize policy barriers and potential solutions for common data challenges and the implications for OHT sustainability and scalability.

From our perspectives as embedded researchers, we describe, compare, and contrast three diverse approaches to IC and associated data needs and resources. Common challenges and opportunities in acquiring and harvesting datasets for building evaluation plans include the lack of policies supporting information sharing among OHT partners, integration of relevant datasets outside of formal partner organizations, difficult reconciliation of multiple datasets, and value determination of specific data points to drive policy change. OHTs share the vision for better population health. With this collective vision in focus, we reflect on tensions with existing data and policy structures, and present opinions in the spirit of positive disruption on what pressing evaluation needs must be addressed for healthcare transformation.

Contemporary efforts to achieve IC are highlighted in the diverse and unique contexts and evaluation approaches of three OHTs, and their shared challenge of generating and harvesting datasets for evaluation and transformation efforts. The sustainability and scalability of OHTs will require modernized policy frameworks for data access, sharing, and evaluation.

C6.3 - Développement d’un modèle de soins de physiothérapie en pratique avancée en SDRC pédiatrique

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

Presenter: *Annick Chouinard*

Le syndrome douloureux régional complexe (SDRC) pédiatrique est un syndrome de douleur sévère à risque de détérioration et de chronicisation. Les délais de prise en charge des enfants atteints du SDRC au Centre Hospitalier Universitaire Sainte-Justine (CHUSJ) dépassent actuellement les recommandations cliniques et scientifiques et il n’existe pas de parcours de soins prédéfini. Ces patients n'ont donc pas accès aux professionnels appropriés au moment opportun, selon une trajectoire de soins optimale.

L’initiative réalisée visait à développer, en collaboration interprofessionnelle, un modèle de soins novateur de physiothérapeute en pratique avancée (PPA) en SDRC pédiatrique afin de mieux répondre aux besoins des patients et de leurs familles. Ce projet d’amélioration continue de la qualité était guidé par deux cadres conceptuels, une adaptation du Participatory, Evidence-informed, Patient-centered Process for Advanced Practice Nursing roles (PEPPA) et le Consolidated Framework for Implementation Research (CFIR). En plus du développement détaillé du modèle, les perspectives des parties prenantes (gestionnaires, médecins, professionnels paramédicaux) au sujet des barrières et facilitateurs à l’implantation de ce nouveau modèle ont été explorées.

Un premier modèle novateur de soins de physiothérapie en pratique avancée en SDRC pédiatrique a été développé dans un centre hospitalier tertiaire pédiatrique, en collaboration interprofessionnelle. Parmi les barrières identifiées, la clarté du rôle du PPA, le climat d’implantation (p. ex : informations législatives, politiques institutionnelles) et la culture des équipes de soins sont des enjeux qui devront être examinés et résolus avant l’implantation. Quant aux facilitateurs, le fait que ce modèle réponde aux orientations ministérielles d’accès rapide à des soins qui correspondent aux besoins des patients, par le professionnel approprié, au moment opportun représente une force majeure. Son implantation à coût neutre et le fait qu’il soit basé sur les plus récentes évidences scientifiques augmentent aussi sa crédibilité et sa faisabilité.

L’implantation de ce modèle novateur de physiothérapeute en pratique avancée en SDRC pédiatrique permettra au CHUSJ de se positionner comme pionnier en soutien aux enfants qui vivent une expérience de douleur invalidante et à leurs familles, en optimisant leur parcours de soins et possiblement en accélérant leur retour fonctionnel.

C6.4 - Care Everywhere: Implementing Evidence-based Digital Transformation to Enhance Coordination, Access, and Efficiency across a Health System

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

Presenter: *Jennifer Gutberg*

The West-Central Montreal Integrated Health and Social Services University Network (CCOMTL) has a primary vision to provide 'Care Everywhere' – that is, care to patients at the right place and the right time. In a context of rapid adaptation and continual transformation enabled by the pandemic, CCOMTL has responded by creating new approaches to both the coordination and provision of care that leverage real-time data and rapid evaluation feedback.

This work explores the process of implementing digital transformation that has enabled CCOMTL to become a Learning Health System, supported through innovative public-private partnerships, as well as an embedded research partnership. In particular, we highlight the rapid creation, implementation, and scale-up of a Network-wide Command Centre, aimed at improving patient flow through acute and post-acute care transitions, involving multiple sectoral partners. Parallel to this ongoing work is the development of a rapid and iterative evaluation framework to ensure the Command Centre's ability to scale and spread, and assure that goals are met for patients and care providers alike.

The Command Centre has been operating since April 2021, after a rapid scale-up period to support CCOMTL's COVID-19 response, with an initial priority of addressing alternate level of care (ALC) bed capacity. Through enhanced communication, coordination, and access to real-time data, the Command Centre has reduced ALC beds from a peak of 67 to consistently at or below 40 beds. The Command Centre also recently began targeting a second system priority for mental health patients, to assure that patients receiving acute psychiatric care are effectively transitioned out of hospital with the appropriate resources. Beyond already noted system impacts, the embedded research partnership has also enabled the development of an evaluation framework to assess and enhance teamwork and culture, as well as process and outcome measures.

The Command Centre has enabled CCOMTL to begin the journey of becoming a Learning Health System. Through up-to-the-minute data access, rapid evaluation, and a focus on continual quality improvement, the Command Centre has been able to rapidly become a central source of information and action for the health system network.

C6.5 - How do we implement and evaluate learning health systems? Findings from a mixed methods systematic review

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

Presenter: *Mari Somerville*

Learning health systems (LHS) present a structure for continuous implementation of evidence into practice and are recognized as a promising approach to enhance value-based care. Despite the desire to promote and embed a LHS structure within organizations, there is a lack of understanding of how to effectively operationalize LHS at a local, national, and international level. Therefore, this study aimed to synthesize the literature on LHS implementation across all healthcare settings and countries.

A standard approach to mixed methods systematic reviews was followed. We developed the search strategy with a health librarian for six databases: CINAHL, Embase, Medline, PAIS, Scopus and Nursing and Allied Health Database. The search included terms related to LHS, implementation strategies and evaluation measures. Two reviewers independently screened all studies and conflicts were resolved through discussion. Data were extracted from by one reviewer and verified by a second. Extracted data included study characteristics, healthcare setting, description of LHS, types of implementation strategies, evaluation measures and reported outcomes. A convergent, integrated approach to data synthesis was used.

A database search identified 3996 studies, of which 1740 were screened for eligibility. Most studies were conducted in the USA, and were published within the past 10 years. Many studies reported on the implementation of LHS for a specific patient population or clinical setting, such as cancer care or cerebral palsy. Using the ERIC taxonomy to categorize extracted data, commonly reported implementation strategies included: I) Change in record systems; ii) Create a learning collaborative; and iii) Capture and share local knowledge. The sustainability of LHS and the importance of data-driven infrastructure were also highlighted in most studies. Qualitative studies largely reported on health system leaders’ perspectives about how to effectively implement LHS, while quantitative studies often reported on the impact of LHS on patient outcomes.

The implementation of LHS is an important next step in advancing complex health systems research. This review highlighted common implementation strategies and outcome measures to support the transformation of healthcare systems to LHS. This provides a foundation for future researchers and health system leaders to advance LHS.

C7.1 - Examining the Role of Indigenous Primary Healthcare across the Globe in Supporting Populations During Public Health Crises

THEME: *Indigenous Health*

Presenter: *Stephanie Montesanti*

When health systems are overwhelmed during a public health crisis regular care is delayed and injury and death result from lapses in care. Indigenous primary healthcare (PHC) includes programs that incorporate treatment, management, prevention, and health promotion, as well as addressing the social determinants of health (SDoH) and a focus on redressing health inequities. We examined how Indigenous PHC mobilizes and innovates during a public health crisis to address patient needs and the broader SDoH.

A rapid review methodology was chosen given the urgent need to understand the role of Indigenous PHC in a public health crisis. The review was undertaken from January to March 2021 and the following questions were used to guide the review: How does Indigenous PHC mobilize to address patient and community needs during a public health crisis? What are the components of the response? Included were primary empirical, theoretical, and implementation studies and reviews of empirical studies. A subsequent grey literature search was also conducted to identify sources that were not published in indexed journals.

This yielded five main themes that highlight the role of Indigenous PHC during a public health crisis: (1) development of culturally appropriate communication and education materials about vaccinations, infection prevention, and safety; (2) Indigenous-led approaches for the prevention of infection and promotion of health; (3) strengthening intergovernmental and interagency collaboration; (4) maintaining care continuity; and (5) addressing the social determinants of health.

The findings highlight important considerations for mobilizing Indigenous PHC services to meet the needs of Indigenous patients during a public health crisis such as COVID-19.

C7.2 - First Nation data sovereignty and pandemic planning innovation in Manitoba

THEME: *Indigenous Health*

Presenter: *Wanda Phillips-Beck*

Modeling COVID-19 is complex, considering the unique circumstances of First Nations (FN) and disproportionate number of positive cases, ICU admissions, and deaths. Accurate and timely data is critical in emergency response management and FN require access to their own data to support evidence-based decision-making and planning.

In the province of Manitoba, strong FN leadership was immediate in determining the need for collecting FN-specific COVID-19 information. The goal of this study is to leverage existing partnerships to develop a platform to measure the impact of COVID-19 on First Nation people in Manitoba, and support on-going planning, and build sustainability for present and future FN controlled surveillance. This platform would provide individual communities, leaders and organizations with a tool to support self-determination in pandemic response and mobilize infrastructure as needed.

In swift negotiations between the First Nation Health and Social Secretariat, FN leadership and Province of Manitoba, an amendment was made the COVID-19 intake and contact form, to capture FN status. This was the first province in Canada to have this self-identification process along with signing a Data Sharing Agreement outlining appropriate data governance protocols. Building on this collaboration, the FNHSSM hosted the FN data dashboards on their website and also included testing information, vaccine clinic locations, bulletins, and other pandemic updates. This FN-specific COVID-19 data has helped guide the public health response and support and inform planning.

Initiatives like this stress the need for data sovereignty and the importance of nation based distinctions as health policy and services vary between jurisdictions. FN specific surveillance information is a critical mechanism that allows for the rapid identification of confirmed FN cases and management of COVID-19 and other future outbreaks.

C7.3 - Balancing Indigenous Data Rights, Priorities, and Interests

THEME: *Indigenous Health*

Presenter: *Robyn Rowe*

Policies that assert dominance are embedded throughout every political, economic, legal, and educational structure in so-called Canada. First Nations, Inuit, and Métis tackling the healthcare system in this country face a tangled and complex mess of hundreds of years' worth of bureaucracy and policies rooted in discrimination, racism, and assimilatory mindsets. The continued impacts of colonial inequities are amplified as a result of digitization, connection, ecological crises, and a global pandemic.

Countless documents, policies, and action plans have been created over the last few decades that demand solutions and speak to the importance of meeting the sovereignty priorities of Indigenous Peoples in Canada and around the world. Despite ongoing efforts, there continues to be fragmentation between federal, provincial, and territorial governments, between departments and ministries, and among service agencies who work with Indigenous Nations. The Indigenous Data Team at HDRN Canada will discuss 1) what is data colonialism; 2) what are Indigenous-led data initiatives; and 3) what are some areas that need further discussion to advance Indigenous-led data governance.

Government polices lack alignment with movements that assert Indigenous sovereignty. The innate and traditional life principles that have guided Indigenous Peoples as stewards of this earth for millennia, are needed in order to ensure the continued survival of all life on the planet. How effectively the measures that are currently in place ensure the earths continue survival, is largely dependent on the analytical tools and methodologies used within data environments. Data and research influence decision-making. Well-defined and Indigenous-controlled data governance mechanisms should be asserted in order to address the extraordinary need for increased environmental justice. Centralizing research approaches that improve Indigenous lives through Indigenous-led and Nation-born priorities is a critical step in Nations' capacity to rebuild, rematriate, and reconnect.

Despite vast diversity between and among Indigenous Nations in Canada and around the world, there is general agreement that Indigenous knowledges must be used to guide the development, application, and improvement of research through Indigenous-led governance and sovereignty initiatives. This presentation aims to provoke discussions on thoughtful steps forward, together.

C7.4 - Market exclusivity above all else: A critical review of the regulatory history of Suboxone in Canada

THEME: *Pharmaceutical Policy*

Presenter: *Meghan McGee*

Suboxone (buprenorphine-naloxone) is an opioid product approved in the US and Canada for the treatment of opioid use disorder. The drug is considered an important response to the opioid overdose epidemic. But there are documented irregularities, or “abuses”, in the US pharmaceutical regulation process that support manufacturer profit-making. We aimed to critically examine the regulatory history of Suboxone in Canada and determine how federal regulators balance profit-making and equitable access during an epidemic.

We used public drug and patent registries to critically examine Suboxone’s Canadian history. First, we investigated Suboxone’s entry into the Canadian market to understand how it achieved market exclusivity. Second, we examined Health Canada’s risk mitigation process to address extramedical use and diversion to understand the intersection of regulation and brand promotion. Insights from these two analyses were then extended to the recent approval of two related buprenorphine-containing products and their specific pathways to Canadian market exclusivity.

We identified inconsistencies in Suboxone’s regulatory history that suggest Health Canada’s functions of health protection and promotion were compromised in favour of a profit-making “innovations” agenda. Despite six years of de facto market exclusivity, there was no evidence suggesting Suboxone achieved formal de jure exclusivity (i.e., through patent or data protection). Health Canada’s process to address safety concerns of Suboxone were compromised by imperatives of brand promotion, which enabled the manufacturer to create and market a branded “education” program for its product. Similar inconsistencies have afforded market exclusivity for two related products despite marginal innovation.

Health Canada’s regulatory duties were compromised in favour of manufacturer profit-making. This approach can adversely affect public health due to unnecessarily high costs for drugs deemed essential to stem a major health crisis. Alternative pharmaceutical policies are urgently needed to safely expand treatment access for opioid use disorder.

D1.2 - Assessing the Clinical and Economic Impacts of Renfrew County's Virtual Triage and Assessment Centre (VTAC)

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

Presenter: *Jonathan Fitzsimon*

Renfrew County, Ontario is largely rural, with no walk-in clinics, making the emergency department the only healthcare option for 22,000 residents without a primary care provider. The Virtual Triage and Assessment Centre (VTAC) is an innovative local healthcare solution. It blends virtual and in-person services to increase access to family physicians, provide COVID-19 testing and reduce unnecessary emergency department visits. This study examined VTAC's impact during its first year.

This study was based on an analysis of health-administrative data from ICES, Ontario's population health data steward, including patient-level information about contacts with the health care system. This data was analyzed to compare pre-pandemic and intra-pandemic use of emergency departments, family physician services, and hospital admissions. The catchment population of the Renfrew County and District Health Unit (RCD) was compared to the catchment populations of two neighbouring health units, Hastings and Prince Edward, and Leeds, Grenville, and Lanark, and also to the Champlain region and Ontario as a whole.

The study found that during VTAC's first year of operation from April 1, 2020 until March 31, 2021, the health system in RCD performed better than comparable jurisdictions on several key metrics:

- Emergency department visits declined more in RCD than in all other regions studied, especially for less-urgent visits;
- Emergency department visits by ambulance grew more slowly in RCD than in neighbouring health units;
- Hospitalizations declined more in RCD than in its neighbouring health units, and in line with the provincial average;
- Primary care services were more stable in RCD than in its neighbouring health units and the overall Champlain region; and,
- Health system costs grew much less in RCD than in its neighbouring health units and the Champlain region overall.

During the period VTAC was operational, RCD's health system performed better than comparable jurisdictions on several key metrics, especially with respect to reducing non-urgent emergency department visits. This suggests that VTAC was successful at increasing access to family physicians and decreasing unnecessary emergency department visits.

D1.3 - Facteurs de performance des établissements de soins de longue durée dans le contexte de la pandémie de la COVID-19

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

Presenter: *Josiane Létourneau*

Les établissements de soins de longue durée ont été fortement touchés par la pandémie de la COVID-19. Alors que la majorité d'entre eux ont rapporté un nombre élevé de cas et de décès, certains ont été plus performants avec peu de cas et de décès. Le but de cette étude est d'identifier les facteurs de performance qui ont influencé les établissements de soins de longue durée dans la gestion de la pandémie de la COVID-19.

Une revue de la portée a été utilisée. Elle est basée sur une approche multidimensionnelle de la performance qui intègre le cadre d'évaluation de la performance du système public du Ministère de la Santé et des Services Sociaux du Québec et celui de la prévention des infections nosocomiales. Les articles, publiés entre le 1er janvier 2020 et le 31 décembre 2021 en français ou anglais dans CINAHL, MEDLINE, CAIRN, Science Direct, Scopus et Web of Science, ont été inclus et révisés par trois co-auteurs de manière indépendante. L'extraction, l'analyse et la synthèse des données des articles retenus ont été effectuées.

Un total de 9 895 articles a été identifié. 3 788 articles ont été supprimés car ils étaient des doublons et 23 car ils étaient rédigés dans une langue autre que le français ou l'anglais. Le processus de sélection des articles qui ont été inclus porte sur 6 107 articles. Plusieurs catégories de résultats, telles que les caractéristiques des études, seront présentées de manière narrative et à l'aide de supports visuels, sous forme d'organigrammes et de tableaux. Basées sur le cadre conceptuel de l'étude, les dimensions de la performance qui seront identifiées, ainsi que la fréquence relative de chacune d'entre elles, seront regroupées sous forme de diagrammes de Venn. Les facteurs qui agissent comme facilitateurs ou obstacles ainsi que leur fréquence relative seront également présentés.

Une compréhension globale des facteurs qui influencent la performance de ces établissements pourrait fournir des pistes de solution pour la gestion des éclosions actuelles et futures, afin d'améliorer les mesures de prévention des infections nosocomiales, la qualité des soins, la sécurité et le bien-être des résidents et du personnel soignant.

D1.4 - A Feasibility Study for CODE-MI: High-Sensitivity Cardiac Troponin - Optimizing the Diagnosis of Acute Myocardial Infarction/Injury in Women

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

Presenter: *Yinshan Zhao*

Stepped-wedge trial is gaining popularity in assessing effectiveness of service delivery interventions. We illustrate the feasibility study conducted to inform the design and power evaluation of CODE-MI, a pan-Canadian, stepped-wedge cluster randomized trial that evaluates the impact of using the female-specific 99th percentile threshold for high-sensitivity cardiac troponin (hs-cTn) on the diagnosis, treatment and outcomes of women presenting to the emergency department (ED) with symptoms suggestive for myocardial ischemia.

This feasibility study was undertaken to address several challenges in the design of CODE-MI. Using linked administrative data from 11 hospitals in Ontario, Canada, from October 2014 to September 2017, the following estimates were obtained: number of eligible patients, i.e., women presenting to the ED with symptoms suggestive of myocardial ischemia and a 24-hour peak hs-cTn value within the female-specific and overall thresholds (i.e. primary cohort); the rate of the 1-year composite outcome of all-cause mortality, re-admission for non-fatal myocardial infarction, incident heart failure, or emergent/urgent coronary revascularization. Study power was evaluated via simulations tailor to the design of CODE-MI.

Overall, 2,073,849 ED visits were assessed. Among women, chest pain (with or without cardiac features) and shortness of breath were the most common complaints associated with a diagnosis of acute coronary syndrome. An estimated 7.7% of women with these complaints are eligible for inclusion in the primary cohort. The rate of the 1-year outcome in the primary cohort varied significantly across hospitals with a median rate of 12.2% (95%CI: 7.9%-17.7%). With 30 hospitals, randomized at 5-month intervals in 5 steps, approximately 19,600 women are expected to be included in CODE-MI, resulting in >82% power to detect a 20% decrease in the odds of the primary outcome at a 0.05 significance level.

Routinely collected administrative health data serve as a rich and essential resource for conducting pragmatic trials assessing process change, such as CODE-MI. We demonstrated the strength of using linked administrative health data to guide the design of pragmatic clinical trials and accurately evaluate the study power.

D1.5 - Impact of COVID-19 on access to care for seniors: results from The Commonwealth Fund's Survey of Older Adults in Eleven Countries (2014-2021)

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

Presenter: *Sandra Milicic*

The COVID-19 pandemic had an impact on the capacity of health care systems to continue delivery of services in a timely manner. It created an opportunity to accelerate and expand the delivery of care from traditional in-person to virtual care. The results from this study highlight how access to care for Canadian seniors compares to 10 peer countries: Australia, Canada, France, Germany, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States, over time.

The Commonwealth Fund (CMWF) International Health Policy Survey of older adults aged 65+ is used to examine the similarties and differences of access to care in Canada and 10 peer countries. The survey was administered via landline and the total number of Canadian respondents was 3,147 (in 2014), 4,549 (in 2017), and 4,484 (in 2021). To ensure representativeness, responses were weighted for each province/territory by age, gender, education and knowledge of French/English. Additional weighting was applied for the share of Canadian population age 65+ that each province/territory represents. Significance tests were used to compare Canadian results with the CMWF average.

In response to the changing needs of Canadians due to the pandemic, delivery of virtual care services has increased. A larger proportion of Canadian seniors (71%) reported having virtual appointments compared to CMWF peers (39%). In contrast, timely access remains an issue for Canadians compared to peer countries and over time. 32% of Canadian seniors were able to get a same or next day appointment, the lowest among the 11 countries, and this worsened compared to 2014 (45%) and 2017 (41%). Fewer Canadian seniors (42%) found it was easy to get medical care after-hours, significantly lower than the CMWF average (52%). 29% of Canadian seniors reported having an appointment cancelled or postponed as a result of the pandemic compared to the CMWF average of 19%.

Results of the survey show that Canada's health care systems responded swiftly to the pandemic by expanding delivery of care services virtually. However, timely access to care in Canada continues to trail behind peer countries and is an area that can be improved.

D2.1 - Contraception use in female youth with disabilities: Results from a Canadian cross-sectional survey

THEME: *Equity and Vulnerable Populations*

Presenter: *Hilary Brown*

Contraception use is a key indicator of sexual and reproductive health care access. In addition to preventing unintended pregnancy, contraception use provides an important opportunity to engage in reproductive life planning and address preconception risk factors. Women with disabilities have historically faced barriers to sexual and reproductive health care, but contraception use among disabled youth has received little attention. Our objective was to compare contraception use in Canadian females with and without a disability.

We used data from the 2013-2014 Canadian Community Health Survey on 15 to 24-year-old females with (n=859) and without (n=2,706) a disability. Disability was defined as sometimes or often (vs. never) experiencing functional limitations or restrictions to activities of daily living at home, school, or work. We used log binomial regression to derive adjusted prevalence ratios (aPR) for any vs. no contraception, and for each type of contraception measured separately (i.e., birth control pill, injectable birth control, condoms, and other [e.g., diaphragms, spermicides]), comparing female youth with and without disabilities. Adjusted analyses controlled for age, education, household income, and race/ethnicity.

Female youth with disabilities were slightly less likely than those without disabilities to use any contraception, but this was non-significant after adjustment (81.2% vs. 83.6%; aPR 0.99, 95% CI 0.96-1.03). After adjustment, there were no significant differences in use of the birth control pill (51.7% vs. 56.8%; aPR 0.94, 95% CI 0.88-1.01) or condoms (43.1% vs. 46.2%; aPR 0.95, 95% CI 0.87-1.04), but female youth with disabilities were more likely to use injectable birth control (5.3% vs. 2.2%; aPR 2.32, 95% CI 1.59-3.39) and other forms of birth control (13.6% vs. 8.6%; aPR 1.55, 95% CI 1.26-1.91).

While overall differences in contraception use between female youth with and without disabilities were small, variations in contraception type require attention. Injectable birth control, while effective, has side effects such as weight gain and mood swings. Female youth with disabilities should have full access to a range of contraception options.

D2.2 - How do emergency youth shelters and the health system engage? A case study exploring coordination of care for youth experiencing homelessness in Toronto

THEME: *Equity and Vulnerable Populations*

Presenter: *Alzahra Hudani*

Background: Poor coordination of care between the youth shelter and health system in Toronto has left youth experiencing homelessness with the challenge of navigating discrete system to receive healthcare. It is unknown what processes exist in each system to coordinate care for this population.

Objectives: 1) Understand the processes, gaps, and strengths in coordinating health services for youth experiencing homelessness by the emergency youth shelter and health systems; and

2) Explore policy, program-based, and system-level recommendations from actors within levels of both systems to improve coordination of care.

This research is informed by a systems thinking and complexity science lens, and is grounded in grounded theory methodology.

The research question: "How do the emergency youth shelter system and health system engage to coordinate care for youth experiencing homelessness in Toronto?" is explored through qualitative research methods including a document analysis, and in-depth interviews with key informants at various levels of both the emergency youth shelter and health system including: management and executive staff, clinical and non-clinical frontline staff, and young people with lived experience of homelessness.

Constant comparative analysis is being used to analyze data using NVivo software.

In this multi-method qualitative study, the following results have been found on the coordination of care processes between the youth shelter and health system:
Strengths include:

- Having a youth worker accompany youth in transitioning between systems;
- Having formal partnerships between systems

Challenges include:

- Fragmented communication between systems;
- Lack of information provided to shelter staff about progression of care of their youth clients;
- Some institutions are better trained in trauma-informed approaches to care;
- Discrepancies in the way that different institutions and staff operate.

Recommendations for improvement include:

- Having more human resources available to streamline coordination of care within systems;
- Consistency in approaches to care within systems;
- Increased communication between staff;
- More Youth in Transition workers on site;
- More training for staff to coordinate care more seamlessly for youth;
- More strategic partnerships between systems;
- Adjusting privacy policies to improve quality of care at shelters.

There is a need for collaborative and consistent processes within and between both systems to improve coordination of care for youth experiencing homelessness in Toronto.

D2.3 - Community Hubs for Vulnerable Populations Evaluating Lessons from the COVID-19 Pandemic

THEME: *Equity and Vulnerable Populations*

Presenter: *Volletta Peters*

The COVID-19 pandemic has significantly impacted Durham Region's resources and disrupted the lives of its most vulnerable populations. In 2020, the Region developed pilot community hubs to respond to individuals' unmet health, housing, and support needs. The presentation will highlight lessons learned from evaluating the community hub model, including the development of the community hub research advisory committee, our subject matter experts, and its collaborative work with the research team.

The Region of Durham initiated its first community hub as a COVID-19 crisis response providing low-barrier service access to vulnerable populations. Demands for services at the hub highlight the need for similar hubs across the region. To apply an evidence-based approach in determining if the temporary community hubs should be implemented as a long-term strategy, and expand to other communities, formal program evaluation was conducted in two community hubs in the region. The evaluation included collaborating with the research advisory committee, consulting best practices, co-designing data collection instruments, the survey of community hub staff and clients, and key informant interviews.

Results revealed that clients have low-barrier access to medical, housing, and support services in one location. Survey responses were collected from a total of 75 clients and15 direct service staff. Seven key informant interviews were conducted to follow up on the survey responses. Survey responses revealed that over 70% of clients are unhoused, while sixty-eight percent of clients reported having their food needs met. Overall, the COVID-19 pandemic helped to spotlight the known unmet basic needs of the clients, which underscored the critical role for health and community-based organizations to rapidly develop a progressive service response model. The survey found that one hundred % of staff are satisfied with the current partnership relationships in the community hub model.

Evaluating the community model will provide data to the Region of Durham to help inform its long-term strategy in addressing the needs of its vulnerable populations, and its decision-making in transforming the community hubs into a permanent community service model. The data will help to inform evidence-based program design.

D2.4 - Making Sense of Health Equity in Rural Dementia Caregiving During a Pandemic

THEME: *Equity and Vulnerable Populations*

Presenter: *Katie Aubrecht*

COVID-19 pandemic responses have rested on the assumption that socially and clinically vulnerable community dwelling older people with dementia can be supported by family, however, the realities of population aging, demographic changes including smaller families, and outward migration for education and employment have resulted in decreases in the number of available caregivers in rural communities. This presentation reports on research that aimed to understand the meaning of health equity within this context.

Our Nova Scotia based rapid research project used a Sex & Gender-Based Analysis+ (SGBA+) conceptual framework, and involved a Joanna Briggs Institute scoping review of published research on dementia care in the community, environmental scan of publicly available information on supports and services, policy scan of dementia related legislative and regulatory policies and policies introduced as a response COVID-19, and online surveys and interviews with people living with dementia and their family/friend caregivers, and service and support providers.

There is a reluctance by researchers, policy makers, service and support providers, people living with dementia and their families to frame rural dementia care experiences using a health equity lens, despite recognition of gender and ethno-racial cultural related disparities in care needs and access to services and supports. Addressing health equity at an angle through questions about community of residence and their relation to place offered valuable insights about how these various stakeholders interpret and define health and barriers and facilitators people living with dementia and their families face in realizing their full health potential.

Our research points to the importance of an intersectional, reflexive and place-based approach in public health research and practice. In considering the historical and socio-political contexts of care, SGBA+ provides a valuable analytical tool for interpreting differences in care experiences as consequences of historical exclusion and systemic discrimination.

D2.5 - New Opioid Use and Risk of Subsequent Dose Escalation and Opioid Toxicity Among Adults with Intellectual and Developmental Disabilities

THEME: *Equity and Vulnerable Populations*

Presenter: *Qi Guan*

Individuals with intellectual and developmental disabilities (IDD) are often medically complex and experience pain more frequently than those without IDD. Opioids are an effective method of pain management, but little research has been conducted on their use in this population. Our study aims to understand the characteristics of opioid therapy among adults with IDD in Ontario and to determine the hazard of dose escalation and opioid toxicity after starting therapy compared to the non-IDD population.

We used a retrospective propensity-matched cohort study to examine the relationship between IDD diagnosis and two outcomes (dose escalation above 90 milligram morphine or equivalent [MEQ]; opioid toxicity [fatal and non-fatal]) among adults in Ontario who start opioid therapy between January 1, 2013 and December 31, 2018. We looked for the occurrence of dose escalation or opioid toxicity within the year after starting opioid therapy. We matched adults with IDD 1:1 to adults who did not have IDD, and used Cox proportional hazards models to determine the association between IDD diagnosis and each outcome.

We included 20,598 eligible adults with IDD who were matched to an equal number of Ontarians without IDD (mean age, 37 years; 58% male). Most opioid prescriptions were under 50 MEQ (84.9% with IDD) and shorter than a week in duration (84.6% with IDD). Prior to matching, the hazard of dose escalation was significantly lower among those with IDD (273 and 396 events per 1,000 person-years, respectively; hazard ratio [HR] 0.74, 95% CI 0.64-0.86) compared to those without, and the hazard of opioid toxicity was significantly higher (2.42 and 0.54 events per 1,000 person-years; HR 4.45, 95% CI 3.36-5.89). These associations were attenuated and no longer statistically significant in the matched analysis (dose escalation: HR 0.78, 95% CI 0.55-1.09; opioid toxicity: HR 1.42, 95% CI 0.90-2.25).

Although individuals with IDD have a higher hazard of toxicity and dose escalation than those without IDD, these associations no longer hold after accounting for patient and prescription characteristics. Thus, these relationships are likely due to the underlying demographic and clinical characteristics of this population rather than the IDD diagnosis.

D3.1 - Principles of best practice for healthcare workforce modeling: A scoping review and evidence synthesis

THEME: *Health Human Resources*

Presenter: *Shaun Shaikh*

In Ontario, Canada, like many jurisdictions, there is no comprehensive system-level, regularly-updated healthcare workforce model used by policymakers to project workforce gaps and develop policy accordingly. A variety of approaches have been discussed in the literature on how to forecast workforce levels. This study systematically compiles recommendations, best practices, and items for consideration in a unified framework of principles as a resource for healthcare workforce modeling.

A scoping review was carried out searching for academic review articles in PubMed and international comparisons in the grey literature by web search. The search was restricted to articles in the English language from the period 2005 to the present. Evidence was synthesized as a framework of principles on healthcare workforce modeling.

A total of 20 relevant articles were identified as meeting inclusion criteria for the study, 10 of which were academic reviews and 10 international comparisons. Three-quarters of these studies (15 of 20) were published in the last half of the half to the time period for inclusion (2013 to 2021) and 4 articles (20%) were published in 2021. From these articles, we derived a total of 72 recommendations from the literature. We grouped these into 4 categories, corresponding to: (1) principles related to system objectives; (2) principles related to model elements; (3) principles related to modeling methodology; and (4) principles relating to model evaluation.

We developed a comprehensive framework to serve as a resource to organize a program of applied research needed to develop workforce modeling approaches that address sustained and policy-relevant workforce forecasting efforts in Ontario and internationally.

D3.2 - Associations of nurse overtime hours with nurse and patient outcomes: A systematic review of observational studies

THEME: *Health Human Resources*

Presenter: *Christian Rochefort*

To manage nurse shortages, unpredictable absenteeism, and fluctuations in patient requirements for nursing care, nurses frequently work overtime. The prevalence of overtime hours among nurses in Canada and the U.S. is higher than among all other public sector workers, and markedly increased during the COVID-19 pandemic. However, the effects of nurse overtime hours on nurse and patient outcomes have not been systematically examined. The purpose of this systematic review was to address this knowledge gap.

A systematic search of the English/French literature was conducted in four electronic databases (Medline, CINAHL, Scopus, Cochrane). Additional studies were identified from bibliographies, prior reviews, and by contacting authors. Studies were included if they: a) were published between 1996 and 2022; b) were based on a quantitative design; and, c) examined the associations between nurse overtime and at least one nurse or patient outcome. Data were independently extracted, analysed, and synthesized by two authors and discrepancies were resolved by consensus. Due to methodological heterogeneity, no meta-analysis was performed. The methodological quality of each study was assessed using the STROBE criteria.

A total 628 articles were retrieved, among which 27 satisfied the inclusion criteria. These studies were based on cross-sectional surveys (n = 22) and prospective cohorts (n = 5). They measured 21 distinct nurse outcomes and 19 different patient outcomes. With regards to nurse outcomes, studies reported positive associations between higher nurse overtime and higher physical and mental fatigue (e.g., burnout), work-related injuries (e.g., musculoskeletal disorders), absenteeism, intent to leave, overweight/obesity, substance use (e.g., alcohol, drugs), and sharps and needlestick injuries. Higher overtime work was also associated with decreased sleep length or quality and lower job satisfaction. Regarding patient outcomes, higher nurse overtime work was associated with higher rates of nosocomial infections, medication errors, falls, decubitus ulcers, mortality, and failure-to-rescue.

There is evidence to support an association between higher nurse overtime hours and worst nurse outcomes. However, more robust studies are required to support such an association with patient outcomes. The methodological quality of the reviewed studies examining nurse outcomes was moderate, and low for those pertaining to patient outcomes.

D3.3 - Listening to the Experiences of Women's First Responders in Ontario

THEME: *Health Human Resources*

Presenter: *Kelly Gregory*

First response work has historically been designed for and performed by men; yet more women than ever are striving to do this work. What little research exists suggests women first responders face harassment and discrimination, unequal access to resources, and reproductive health challenges. Through examining the experiences of women first responders as they pertain to their occupational health and wellbeing, this work supports recruitment and retention, and policy related to this health workforce population.

Semi-structured phone/Zoom interviews were employed to investigate the experiences of paramedics, police officers and firefighters (n = 15) who self-identify as women and work in Ontario, Canada. Interviews explored participants' individual life course, resiliency and stress, diversity and inclusion, and gender and professional roles. Interview recordings were transcribed with Otter.ai and reviewed for accuracy, and analysis was conducted using NVivo. Constructivist grounded theory was utilized to understand the experiences within and across the three professions, and a Gender Based Analysis Plus approach was utilized to consider how gender and other social factors may be impacting workers' experiences.

Preliminary findings reveal that negative clients' assumptions, sexist workplace commentary, lack of access to proper fitting uniforms and equipment, and reproductive health issues represent some exceptional challenges to women doing public safety work. Interprofessional dynamics are largely supportive despite the disproportionate difference in funding and access to resources. Paramilitary occupational structures may contribute to challenges faced by workers who experience harassment and discrimination amid a lack of support from upper-ranking professionals. Geographical differences were also noted, where women in urban locations faced far fewer challenges related to workplace culture. Recommendations include EDI education and implementation among high-ranking officers to shape positive workplace cultures for women, increasing financial and organizational support for maternity leaves, and greater access to mentorship for women through their career trajectory.

As the only qualitative and comparative approach to investigating Canadian women first responders, to the author's understanding, this work provides unique insight into complexities and larger trends in the field. Considering these lived experiences provides insight into the current status of EDI and provides novel information for advancing EDI goals.

D3.4 - Operationalizing integrated needs-based workforce planning at Nova Scotia Health in response to the COVID-19 pandemic

THEME: *Health Human Resources*

Presenter: *Adrian MacKenzie*

The ongoing COVID-19 pandemic has further demonstrated the critical dependence of health care systems on their respective health workforces, with mounting worldwide evidence of the tragic consequences of inadequate workforce planning. This presentation will document Nova Scotia Health's progress in operationalizing integrated needs-based workforce planning as part of its ongoing response to the pandemic.

A multidisciplinary workforce planning team with representation spanning Nova Scotia Health's People Services, Performance Analytics, Medical Affairs, Research and Innovation, and Interprofessional Practice and Learning portfolios was created to facilitate the organization's response to the pandemic. The team reported directly to members of Nova Scotia Health's Executive Leadership Team. To inform this work, the team blended two related and previously published analytical frameworks for health workforce planning, both of which focused on integrating health service and workforce planning and estimating service and workforce requirements as a function of measures of population health needs.

Analyses applied early in Wave 3 of the pandemic showed projected shortages in several professions, most notably over 100 full-time equivalent intensive care unit (ICU)-trained registered nurses (RNs), at the peak of the wave. They further showed that the services likely to be scarcest would mainly be those that, under normal circumstances, are provided only by either physicians and nurse practitioners, ICU-trained RNs, or respiratory therapists. Based on these results, the workforce planning team recommended and supported operational teams in implementing a multi-faceted set of interventions aimed at increasing the availability of individuals with these competencies. These interventions collectively yielded an adequate supply of additional competent personnel to meet the needs of COVID-19 inpatients across the province through the third wave of the pandemic.

Lessons learned from previous pandemic waves– particularly the importance of integrating planning across professions and organizational portfolios, and the essential nature of IPPL leadership – are proving critical to maintaining core operations in the face of extraordinary pressures on the provincial health care system resulting from Wave 4 of the pandemic.

D3.5 - Shielding our Healthcare Workers: Evidence-based advocacy leads to rapid adoption of Bill C-3 to address bullying, harassment and violence towards healthcare workers

THEME: *Health Human Resources*

Presenter: *Ashley Chisholm*

Throughout the pandemic, there has been a rise in bullying, harassment, and violence against healthcare workers negatively impacting their health and safety threatening the sustainability of Canada's health workforce. Rapid action was warranted to ensure that healthcare workers could continue to care for patients. The objective of this presentation is to provide an overview of CMA's successful approach in advocating for legislative action bolstered by the findings of the 2021 National Physician Health Survey (NPHS).

As a national healthcare organization, CMA plays a strong advocacy role, a function this has become even more crucial since the onset of the pandemic. In the face of the urgent issue of safety for healthcare workers, CMA urged the federal government to take swift, legislative action, in-part by leveraging current state data from the NPHS. In the following weeks, government tabled, debated and passed Bill C-3, an act to amend An Act to Amend the Criminal Code and the Canada Labour Code. The CMA continued its advocacy as the Bill made its way through the parliamentary process.

Results of the NPHS found that more than 75% of physicians have experienced intimidation, bullying and/or harassment in the workplace, with more than one-third reporting experiencing these issues at least a few times a month. CMA leveraged these preliminary results along with firsthand experiences to strengthen the case, urging the federal government to amend the Criminal Code of Canada to establish a new offence in relation to the threats, violence, harassment and intimidation of healthcare workers and anyone seeking healthcare treatment. Bill C-3, an act to amend the Criminal Code and the Canada Labour Code was tabled in Nov. 2021 and received Royal Assent in December 2021. As of January 16, 2022, it is illegal in Canada to harass and intimidate healthcare workers.

Research on physician and healthcare worker health and safety has a key role in advocacy and legislative change. The incidence and impact of threats against healthcare workers will require ongoing monitoring to promote not only the health and safety, but also the sustainability of the health workforce and health systems.

D4.1 - How did the COVID-19 pandemic impact hospital use by persons with dementia residing in long-term care?

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Laura C. Maclagan*

Long-term care (LTC) residents have been disproportionately affected by excess mortality and social isolation during the COVID-19 pandemic. Pandemic-related restrictions including transfer policies and fears of in-hospital infection may have reduced access to acute healthcare services, leaving persons with dementia residing in LTC particularly vulnerable. We examined hospital use among persons with dementia residing in LTC during the COVID-19 pandemic compared to a historical period.

We identified persons with dementia residing in LTC in Ontario, Canada on March 1st 2020 (pandemic cohort) and March 3rd 2019 (historical cohort) using health administrative databases. Dementia status was identified using a validated health administrative data algorithm. Rates of hospital use (acute care and intensive care unit (ICU) admissions, 30-day readmissions, emergency department (ED) visits) were estimated during three pandemic periods (first wave, nadir, second wave) and equivalent control periods. Negative binomial models were used to estimate rate ratios comparing rates in the pandemic period to the historical period.

We identified 61,683 persons with dementia residing in LTC on March 1st 2020 (61,808 in 2019) and age (mean: 85.5 years in both, standardized difference (SD):0.01)) and sex distribution (69.3% female vs. 69.5%, SD: 0.01) were similar between the cohorts. Hospital admissions declined by 29% during the first wave of the pandemic (RR=0.71, 95%CI[0.67, 0.74]) and remained 12% below historical levels during the second wave (RR=0.88, 95%CI[0.84, 0.92]). ICU admissions were 29% below historical levels during the first wave (RR=0.71, 95%CI[0.61, 0.82] and 23% below historical levels during the second wave (RR=0.77, 95%CI[0.67, 0.88]). ED visits declined by 49% (RR=0.51, 95%CI[0.49, 0.54]) during the first wave and remained 33% lower during the second wave (RR=0.67, 95%CI[0.64, 0.70]).

During the first and second waves of the pandemic, we observed large and significant declines in hospital use among persons with dementia residing in LTC. These findings raise issues of equitable access to acute care services for persons with dementia in LTC.

D4.2 - Resident frailty and excess mortality in Ontario Long-Term Care homes during the first year of the COVID-19 pandemic: a population-based time-series analysis

***THEME:** Home Care, Long Term Care and Aging*

Presenter: *Michael Campitelli*

Recent studies indicate that mortality risk was higher among frail versus less frail long-term care (LTC) residents during the Coronavirus Disease 2019 (COVID-19) pandemic. However, existing research has largely failed to consider the higher baseline mortality rates evident for frail residents prior to the pandemic. We examined the relative change in all-cause mortality per month during the first year of the pandemic compared to historical trends within frail and less frail residents of LTC.

We used linked health administrative data from Ontario to conduct a population-based time-series analysis. Physician and drug claims were used to create monthly cohorts of LTC residents who were alive between March 2019 and February 2021. For each cohort, we used the resident's most recent full clinical evaluation using the Resident Assessment Instrument Minimum Dataset version 2.0 tool to compute a validated frailty score. Monthly all-cause mortality rates, and relative rates of mortality between months during the pandemic period and their historical comparators (e.g., March 2020 versus March 2019), were calculated for frail (>30% on frailty score) and less frail residents, separately.

Monthly mortality rates were higher among frail compared with less frail LTC residents in April 2020 (52.1 vs. 23.6 per 1,000 residents) and in January 2021 (44.9 vs. 23.3 per 1,000 residents); months corresponding to the peak of COVID-19 LTC mortality during the first and second waves. However, the relative increases in mortality for April 2020 compared with April 2019 were similar between frail (Relative Rate [RR] 1.67; 95% Confidence Interval [95%CI] 1.56-1.78) and less frail residents (RR 1.84; 95%CI 1.63-2.07). For January 2021 compared with January 2020, the relative increases in mortality were higher among less frail residents (RR 1.54; 95%CI 1.37-1.73) than for frail residents (RR 1.18; 95%CI 1.11-1.26).

Less frail LTC residents were equally, if not more, susceptible as their frail counterparts to all-cause mortality during the COVID-19 pandemic. The health risks faced by residents of all frailty levels in LTC should be considered when planning mitigation strategies for subsequent COVID-19 waves or future pandemics.

D4.3 - Understanding healthcare utilization at the end of life, an application of process mining discovery technique

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Delphine Bosson-Rieutort*

We expect a significant demographic shift for the Quebec population as the proportion of seniors will increase from 16 to 31% by 2031. Concerns and challenges emerge as both prevalence of multiple chronic diseases and acute health care services utilization increase with age. We aim to describe patients' health care trajectories in their last year of life to better understand and organize services around patients' needs.

Using Quebec's administrative health data, we constituted a retrospective cohort of individuals at the "end of their life", including 10% of all Quebec individuals deceased at age 66 and over, between April 1, 2014 and March 31, 2018 (inclusive). For each individual, we extracted all information about the use of health care services over the last 12 months before death to build their trajectories of healthcare utilization. After a thorough data management, we applied process mining technique on healthcare trajectories in order to describe healthcare utilization both in terms of services intensification and sequence of events before death.

The cohort included 21,255 individuals (53% female), deceased at the average age of 83y. Over 50% of the cohort died from an organic failure, 30% of terminal disease and 15% of physical or cognitive frailty. Among the services used, 82% of the cohort made at least 1 visit at the emergency department, 72% were hospitalized and only 27% were admitted in long term care. The output of the process mining will be a "process map" (and its indicators), visually representing the chronological sequence of healthcare utilization. It will allow us to identify problematic segments of the highlighted overall trajectory, such as over or underused services, as well as their cost. Applied on different subpopulations (i.e. diseases), it will help to identify group-specific healthcare services patterns.

Process mining technique combined with massive administrative health databases offer innovative possibilities to provide a better knowledge of trajectories in the last year of life. The main advantage of this technique is to provide a visual support to researchers and decision makers to help improving patients' care in Quebec.

D4.4 - A scoping review of the design, implementation, and evaluation of hospice-based, volunteer-led caregiver programs

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Dr. Vidhi Thakkar*

Surveys across Canada have shown that if given a choice, most Canadians would choose to be cared for and die at home. Research shows that to achieve this goal, most people who are dying require support from a family caregiver. Caregiving can be distressful for people caring for loved ones at home, and some caregivers are reluctant to ask for support. Caregiver support programs exist to help caregivers identify their needs. To inform the development, design and implementation of hospice-based programs, the authors conducted a scoping review to support policy makers program development.

As a part of a CIHR HSIF project, a scoping review of health services literature was conducted in academic databases and a grey literature search was completed. The inclusion criteria were volunteer-led caregiver programs and program evaluations in the hospice and long-term care settings. The final search was conducted in MEDLINE, Embase, CINAHL, PsycInfo, and Web of Science with evidence included from 1990 onwards. Google and Google Scholar was searched for grey literature from national and provincial palliative care organizations, professional interest groups, and hospice organizations. Articles were independently screened and extracted by two researchers. Data was analyzed in a MS Excel table that included each study’s methods, program design, study results and findings, and program evaluation approach.

There were n=22 articles from the academic databases and n=14 from the grey literature. The literature highlighted multiple hospice-based programs that provided support to caregivers in their homes. The literature indicated that health care professionals led most programs designed to support caregivers in their homes. A small sample of volunteer-led programs demonstrated positive impact (n=3 out of 36 articles). The scoping review identified examples of how volunteer led programs can have a positive impact on caregivers. A key finding was an ability to connect people to community services.

This scoping review revealed that support programs for home-based caregivers have a positive impact on the psychosocial needs of older caregivers. The authors recommend more research in programs for caregivers. Health policymakers would benefit from this research in designing aging-focused provincial polices. Patient partners, health care professionals, and palliative care physicians can also apply the results of this scoping review to their work.

D4.5 - Development of a Canadian-specific Hospital Frailty Risk Measure using routinely collected administrative data to support health system planning for older adults (age 65+) at risk of frailty

THEME: *Home Care, Long Term Care and Aging*

Presenter: *Sunita Karmakar-Hore*

As Canada's population ages, an increasing number of individuals are expected to become frail. Until recently, there was no standard using routinely collected data to measure frailty in acute care in Canada. The Canadian Institute for Health Information (CIHI) developed the Hospital Frailty Risk Measure (HFRM) to characterize the risk of frailty among hospitalized seniors (65+) to support health system planning, research and quality improvement, including transitions of care across the health care sector.

The CIHI HFRM uses a cumulative deficit approach, based on number of deficits (frailty conditions) present. Frailty-related deficits were grouped into 36 condition categories, identified in collaboration with clinical experts, using ICD-10-CA diagnosis codes from CIHI's clinical administrative databases over a 2-year look-back period. A continuous risk score was calculated (total number of deficits divided by 36), and a single measure, Hospitalized Seniors (65+) at Risk of Frailty, was developed using the stratum-specific likelihood ratio method by predicting a variety of frailty-related adverse outcomes, including readmission, long length of stay, and high use of hospital beds to determine the cut-point.

The cohort included 788,779 patients, age 65 and older, discharged from acute hospitals across Canada over one year (2018-2019). Patients with 6 or more deficits were determined to be at risk of frailty, representing more than one third (~340,000) of seniors admitted each year. Compared with the comparator group, they were 3 times more likely to be hospitalized for 30 days or longer and 3 times more likely to be high users of hospital beds. Those at risk were also twice as likely to be readmitted within 30 days and twice as likely to die within one year of discharge. This measure provides insight into the magnitude of frailty in Canadian hospitals and can be used to facilitate appropriate and targeted care for this population.

The CIHI HFRM is an accessible tool with results available for all acute care hospitals across Canada. The measure can be used by health system planners, decision-makers and researchers to support system planning, including transitions of care, and facilitate improvements in healthcare and outcomes for seniors at risk of frailty.

D5.1 - Determinants of access and utilization of mental healthcare among forensic service users

THEME: *Mental Health and Addictions*

Presenter: *Marichelle Leclair*

Better access to responsive, integrated and equitable mental healthcare for people who live with mental illness and who have behaviours that make them at risk of criminal justice involvement has been highlighted time and time again as an intersectoral priority. The objectives of the present study is to identify individual and contextual barriers and facilitators for access to mental health services specifically in the period leading to an NCRMD offense.

Data of 1,014 individuals found NCRMD in the province of Québec were extracted from the National Trajectory Project, a longitudinal file-based study of people found NCRMD in Canada. Data related to access and use of mental healthcare services were obtained for an average of 4.5 years preceding the NCRMD offense from three provincial health registries. Seeking care was defined as any contact with services for mental health reason; reaching specialized mental healthcare was defined as having a with psychiatric services; and obtaining care was defined using continuity of psychiatric care. We conducted multivariate hierarchical generalized linear models for each indicator of access. Analyses were adjusted for time of health data follow-up and level of need, approximated using the average annual days of psychiatric hospitalization.

As many as 87.1% of participants sought mental healthcare in the years prior to their offense. All those who had a family physician (25% of all participants) sought care for mental health concerns. Material deprivation of the area of residency decreased the odds of seeking care, whereas social deprivation increased the odds of seeking care. Past involvement with the justice system also increased the odds of seeking care. Participants who were older, lived with family or friends, who lived close to proximity services, or had a family physician had lower odds of reaching specialized mental health care. Participants with a history of NCRMD verdicts and complex clinical profiles were more likely to reach specialized mental healthcare. Attachment to a general practitioner and proximity to services continued to have an effect above and beyond those need-related factors, with very stable size effects. Continuity of care was relatively low in the sample, and was not associated with any measured predictors.

. While barriers to services experienced by people with mental illness and at risk of criminal justice involvement are not unique to this population, they combine here in ways that pose unique challenges. The experience of stigma and discrimination within the services, as service users are labeled as “dangerous” or “too difficult” by providers, only add to the consequences of limited resources, fragmented services and complex care pathways. Even when a first contact occurs, navigating the system may prove to be a challenge for several service users, especially as those who have behaviours that can be perceived as disturbing or aggressive may be rejected by services as their clinical, behavioural and psychosocial needs are perceived as too complex.

D5.2 - Planning Nimble and Responsive Mental Health Services: A Whole System Approach

THEME: *Mental Health and Addictions*

Presenter: *Leslie Anne Campbell*

The consequences of COVID-19 on child and adolescent mental health and access to mental health services resulting from the public health crisis, school closures, social isolation, and economic recession have been considerable, change rapidly and, in some cases, unpredictably. Understanding the changes in patterns of service use, system entry point, level of urgency, and client characteristics are essential for planning responsive mental health and addictions services.

We employed a pragmatic multi-method approach using a combination of quantitative (surveys, measures, and administrative data) and qualitative (key informant interviews, field notes) methods and data sources for data richness and methodological triangulation. The project built upon an existing quality improvement framework within ambulatory mental health services at a pediatric tertiary health centre, allowing meaningful comparisons of the periods prior to and during the pandemic. In this presentation, we include the results of the secondary analyses of administrative data to understand patterns of demand for and use of services across the IWK Mental Health and Addictions Program.

Despite substantial increases in numbers of calls to support agencies such as Kids Help Phone over the course of the pandemic and anticipation in similar increases in numbers of referrals to formal mental health services, calls and referrals to the Central Referral service of a pediatric tertiary mental health and addictions service were not significantly higher than during similar periods in previous years. Rather, over the course of the pandemic, incremental shifts in demand occurred across the service including marginally higher numbers of referrals to the service, higher proportions of referrals resulting in booked appointments, and moderate increases in the average numbers of follow-up visits per client. These shifts together contributed to imbalances in demand and capacity that resulted in growing wait times.

Consideration of system-wide data, including demand for services, service use, level of urgency, and client characteristics, is necessary to support nimble and responsive service planning and provision. High quality program-wide data and processes for review support a robust learning health system.

D5.3 - Bringing the Mental Health and Substance Use Health Workforce into Focus: Insights from a Facilitated Virtual Policy Dialogue

THEME: *Mental Health and Addictions*

Presenter: *Kathleen Leslie*

The mental health and substance use health (MHSUH) impacts of the COVID-19 pandemic are expected to be complex and long-term. The MHSUH workforce has a critical role to play, and yet faces long-standing data, regulatory, and funding challenges. To mobilize knowledge from our recent pan-Canadian research study on the impacts of the pandemic on the capacity of the MHSUH workforce, we held a facilitated virtual policy dialogue.

We held a three-hour virtual policy dialogue with 46 stakeholders and policy-decision makers as the final phase in our year-long mixed-methods research study. The event was part of our integrated knowledge mobilization strategy and was designed to generate stakeholder-driven policy implications and priority actions based on our research findings. The data collected from the virtual policy dialogue included transcripts from the small group breakout rooms and main sessions, reflective field notes, and the final report from the external facilitator. Coded data were thematically analyzed to inform our understanding of the prioritization of the policy implications and action items.

Facilitated virtual policy dialogues generate rich qualitative insights that guide community-informed knowledge mobilization strategies and promote evidence-informed policy. Our policy dialogue identified actionable policy recommendations with equity as a cross-cutting theme. We identified six key priorities to strengthen MHSUH workforce capacity through our facilitated virtual policy dialogue: universal public funding, comprehensive workforce data for better planning, cultural competence, burnout, regulation, and the public/private sector interface. Adapting policy dialogues to virtual formats and including technology-assisted facilitation can offer advantages for equitable stakeholder participation, allow for deeper analysis, and help build consensus regarding evidence-based policy priorities.

Our policy dialogue allowed us to engage a diverse group of MHSUH workforce stakeholders in a meaningful action-oriented way, provided an avenue to get feedback on our research findings, and generated prioritized action items that incorporated the knowledge and experience of these MHSUH workforce stakeholders.

D5.4 - Building a high-quality mental health and addictions system: Learning from four intermediary organizations

THEME: *Mental Health and Addictions*

Presenter: *Janet Durbin*

As with other jurisdictions, Ontario has made delivery of consistent, high-quality evidence-based health care a priority. The newly created Mental Health and Addictions Centre of Excellence is mandated to progress this aim in the mental health and addictions system. Intermediary organizations have recently emerged to bridge the research-to-practice gap. This presentation reports results of a structured review of intermediaries in four jurisdictions to inform efforts in Ontario and elsewhere to build high-quality health systems.

An initial list of intermediaries focused on delivery of mental health and addictions services was developed, based on a targeted scan of the literature and informed by experts in the field. Four were selected for deep descriptive review. Inclusion criteria included mature organization, system wide mandate, use of comprehensive support model informed by implementation science and relevance to publicly funded health systems. A standardized template based on the literature was developed to describe each intermediary and was populated using multiple data sources including peer reviewed and grey literature and key informant interviews. Results were synthesized to identify common practices.

The intermediaries shared a common aim of supporting implementation of evidence-based practices (EBPs) in line with the standards and guidelines set out by government. All but one operated independently from government. Core activities included ongoing performance monitoring (e.g., fidelity reviews, client outcome reporting), centralized training, and technical/coaching support to help programs address quality challenges and for workforce development. Incentives, usually monetary, were tied to performance. However, agencies were supported to address quality problems and poor performance was rarely escalated to the funder for further action. Integrating scientific expertise into the structure of the intermediaries was key to conducting the work with quality and rigour, and to sharing methods and outcomes more broadly. Positive relationships between the intermediary and the programs were fundamental to their success.

Intermediary organizations can offer a systematic approach informed by implementation science to build high-quality EBP delivery within health systems. Working in partnership with the funder is important to accomplish the funder’s aims and to form policy that strengthens practice. Intermediaries need adequate funding to perform their work.

D5.5 - Barriers and facilitators in implementing integrated youth services: Lessons Learned from Youth Wellness Hubs Ontario

THEME: *Mental Health and Addictions*

Presenter: *Nirupa Varatharasan*

Mental health and addiction services for youth in Canada continue to be fragmented. In response, Youth Wellness Hubs Ontario (YWHO) emerged as a one-stop-shop integrated youth service model serving Ontarians aged 12-25. Launched in 2017 as a pilot in six communities, today there are 14 sites with stable funding. At the end of a 3-year pilot, we conducted an implementation evaluation to identify areas of success, improvement, and service delivery modification resulting from COVID-19.

This presentation will highlight the barriers and facilitators to the implementation of the YWHO model from the perspectives of service providers and site leads. We will also cover the rapid modifications to service delivery implemented by sites in response to COVID-19. Key informant interviews were conducted from January to February 2021 with service providers and/or site leads from ten YWHO sites. Reflexive thematic analysis was used to analyze all interview data.

Several barriers and facilitators to the implementation of the YWHO model were identified at the site, community, and system level. At the site level, limited staffing and financial resources, physical hub location, coordination and communication, and establishing youth and family advisories all posed challenges. A few of the barriers at the community and system level included multiple data platforms, low family engagement, inconsistent branding, designing truly integrated service pathways, buy-in from partners, transition to virtual service delivery, collection and use of equity data, and regular use of standardized measures and outcomes. Identified facilitators include supports from the backbone organization, established core components, integrated governance, solid partnerships, excited youth and regular youth engagement, dedicated staff, stable and flexible funding, and leadership support.

Implementation of integrated youth services is highly collaborative and quite complex. As interest in this model increases, so does the need for knowledge related to optimal implementation. Learnings will inform how stakeholders support youth in their communities to design and implement services that improve youth mental health and overall well-being.

D6.1 - External factors that affect diabetes management for people who are experiencing homelessness

THEME: *Chronic Disease Management*

Presenter: *Saania Tariq*

People who are experiencing homelessness (PEH) tend to have a more difficult time managing diabetes compared to adults in the general population due to their housing instability and the challenges it poses. In this setting, there are many external factors that are beyond the individual's control, which can impact diabetes management. We sought to explore and describe some of those factors and how they can positively or negatively impact diabetes management for PEH.

Using a qualitative descriptive approach, we conducted semi-structured interviews with 12 individuals from Calgary, AB who have had diabetes and lived experience of homelessness within the past 10 years. In addition, we held 16 virtual focus groups with those participants to further discuss topics that were touched upon during the interviews. The interviews and focus groups were audio-recorded, and data were analyzed using principles of qualitative descriptive research and inductive thematic analysis.

Three external factors were commonly discussed by participants: diabetes education; stigma, prejudice, and discrimination; and interactions with healthcare providers. Most reported not receiving much formal diabetes education. Among those who did receive education, they reported receiving it so long ago and they found that it didn't apply to them, given their housing circumstances. They also described the stigma they witnessed or experienced because of homelessness and/or diabetes. This affects diabetes management as PEH may be removed from shelters when they have low blood sugar events, for instance. The one area where participants indicated they faced relatively few barriers was in their interactions with healthcare providers. Many participants expressed having positive experiences with their primary healthcare providers, describing them as helpful, and as listening without judgment.

There is a need for increased awareness of diabetes in the homeless-serving sector to reduce stigma. Additionally, PEH need frequent diabetes education that is tailored to their housing circumstances. It is recommended that providers enable patients to discuss their experiences and concerns and extend support to establish trusting relationships.

D6.2 - Measuring COPD incidence in NB: analysis of a province-wide linked administrative and clinical database

THEME: *Chronic Disease Management*

Presenter: *Ted McDonald*

COPD in New Brunswick Canada (NB) is the 3rd leading cause of both death and hospitalization but estimates of the prevalence of COPD among New Brunswickers aged 35 and older have ranged from 24,800 (based on self reported data from CCHS in 2016) to 57,000 (based on CCDSS reporting in 2018). This paper analyzes linked administrative-clinical data to study the extent to which physician diagnosis of COPD in NB is consistent with clinical diagnostic criteria.

We use linked individual data on all adults aged 35+ enrolled in NB Medicare, the provincial public health insurance system. The dataset includes elements from four databases: hospital discharge abstracts, physician billing data, medicare registry, and pulmonary function test (PFT) data from the province's pulmonary function clinics. We use discharge abstracts and physician billing data to generate indicators of COPD using PHAC's Canadian chronic disease surveillance system (CCDSS) algorithm. PFT data include test date, location and clinical test results. Incidence and severity of COPD is generated using Global initiative for Obstructive Lung Disease (GOLD) 2020 standards for postbronchodilator FEV1/FVC values.

We combine administrative and clinical data for 2007-2017 which yield 102,035 unique patient records of three types: those with an indication of COPD based on the CCDSS algorithm (" in CCDSS") but no PFT, those with a PFT result but not in CCDSS, and those in CCDSS who had a PFT. Of the 57,715 individuals in CCDSS, 66% had not received a PFT. Those not doing so were more likely to be older and frail. There were also marked differences by health zone and by area level socioeconomic status. Of those with a PFT who did not have a COPD indication, 91% tested negative for COPD. However, of those who did have a COPD indication and were tested, 63% also tested negative.

Combining administrative and clinical data results in substantial non-concordance in identifying patients with COPD. The potential for both over and under diagnosis of COPD raises important questions regarding the appropriate treatment of individuals with COPD and also highlights potential deficiencies in health data collection that have implications for health policy.

D6.3 - Understanding intrinsic factors that influence people’s practice of diabetes self-management while experiencing homelessness in Calgary, AB

THEME: *Chronic Disease Management*

Presenter: *Matt Larsen*

Background: Diabetes is a chronic medical condition that demands considerable effort from affected individuals to avoid complications. Positive outcomes become substantially harder to achieve when one is also experiencing homelessness. However, some individuals with lived experience of homelessness and diabetes fare better than others. The objective of our study was to identify which intrinsic factors tend to be associated with more positive outcomes in this population.

Approach: We conducted a qualitative descriptive study by interviewing individuals who had experienced diabetes and homelessness within the last 10 years. Interview questions focused largely on asking participants to identify barriers to their diabetes care while they were homeless. We then held a series of 16 focus groups to discuss their experiences of diabetes and homelessness. Focus group discussions centered around discussing previously identified barriers as well as additional barriers that were brought up by participants during these sessions. After reviewing the interviews and focus group sessions several intrinsic factors were identified from participant’s statements.

Results: In their initial interviews and the following focus group sessions participants identified three main intrinsic factors that impeded their diabetes self-management: lack of attention/ concern for their illness due to prioritizing other areas; lack of energy/ motivation to treat their chronic condition due to their mood being affected by being homeless; and a mistrust of healthcare workers and other authority figures. Participants also identified two main intrinsic factors that supported their diabetes self-management: a penchant towards discipline and routine they had formed before becoming homeless; and an acceptance of frequent change and a willingness to adapt to it.

Conclusion: Identifying the intrinsic factors that both impede and support diabetes management in the homeless population has many practical applications. Individuals experiencing homelessness can be taught positive coping strategies that might not only improve their health outcomes but could also increase the likelihood that they will find and maintain permanent housing.

D6.4 - Understanding how Community Health Navigators tailor patient support: An analysis of case notes

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

Presenter: *Michelle Leong*

Community Health Navigators (CHNs) are lay community members trained to provide patient navigation and support in a primary care setting. There is limited research on how CHNs tailor these supports to meet unique patient needs. ENhancing COMmunity health through Patient navigation, Advocacy and Social Support (ENCOMPASS) is a cluster-randomized trial in Calgary, Alberta studying the effect of CHNs on patients with chronic conditions. This sub study assessed whether activities performed by CHNs matched patient-identified needs.

Patients were matched with a CHN who provided support according to an evidenced-based program theory for approximately 6 months. The eligibility criteria were >18 years of age with at least two of: hypertension, diabetes, chronic kidney disease, ischemic heart disease, congestive heart failure, or chronic obstructive pulmonary disease/asthma. Structured and free-text data in CHN case notes and needs assessments were analyzed. Free-text data was coded using a hybrid inductive-deductive approach informed by a program theory and quantitized into count data. Descriptive statistics were used to summarize patient barriers and priorities, and services planned and provided by CHNs.

Case notes were available for 88 patients. The mean age was 64.4 ±10.5 years and majority of the patients were female (61%), Canadian-born (56%), and completed high school or less (60%). For patients who reported barriers to care in the baseline needs assessment (n=73), the average number of barriers was 2.1 ±1.1 per patient. Top barriers reported included finances (73%), health literacy (51%), and transportation (40%). Common priorities patients wanted to work on included improving mobility, increasing physical activity, obtaining financial supports, and improving health outcomes (such as blood sugars). CHNs reported connecting patients to different types of resources (financial, social, or health), gathering and sharing resources, working with multidisciplinary team members to coordinate patient care, and providing emotional and social support.

CHNs provide variable supports to patients outside of a clinic setting and work with patients to address their priorities and overcome barriers. This study advances our understanding of the role of CHNs in a novel healthcare model for patients with multiple chronic conditions and will inform program refinements and scale-up.

D6.5 - Initiation of opioid agonist therapy after hospital visits for non-fatal opioid poisonings in Ontario

THEME: *Mental Health and Addictions*

Presenter: *Daniel McCormack*

Opioid agonist therapy (OAT) is the standard for treatment of opioid use disorder (OUD). In 2018, a national clinical guideline strongly recommended buprenorphine as first-line OAT, in part because it is an accessible treatment option for physicians working within hospital-based settings. Given that patients with OUD regularly engage with the healthcare system in hospital-based settings, we sought to understand the patterns of OAT initiation among people with OUD soon after a hospitalization for opioid toxicity.

We used a retrospective population-based repeated cross-sectional study to examine the rate of initiation of methadone, buprenorphine/naloxone or daily dispensed morphine in the 7 days after an emergency department (ED) visit or hospitalization for opioid toxicity. Cases were excluded if they were transferred to further acute or non-acute care or had no history of OUD. We created a monthly time series from January 2014 to March 2020 and used Autoregressive Interventional Moving Average (ARIMA) models to examine whether the introduction of the national guideline in March 2018 was associated with an increase in the rate of OAT initiation.

Overall, 19,382 cases of opioid toxicity were included in the cohort. We found that the overall rate of OAT initiation after an ED visit or hospitalization for opioid toxicity increased from 3.35% in 2014 to 5.59% in Q1 2020. There was considerable fluctuation throughout the observation period, but the rate of OAT initiation showed a gradual increase starting in 2016. The rate of initiation of methadone and buprenorphine/naloxone were similar throughout the observation period, and daily dispensed morphine initiation was rare. Individuals who initiated OAT were generally younger and more likely to have had an opioid toxicity event in the year prior. There was no significant association between the introduction of national guidelines and the rate of OAT initiation (p=0.5754).

OAT initiation following a hospital visit for opioid toxicity increased over the observation period but remained low. We did not find evidence that the national guideline led to increased access to OAT which suggests the need to identify and remove barriers to initiation in the acute care setting.

D7.1 - How systemic racism results in poorer outcomes for First Nations, and what First Nations are doing about it: the example of Kidney health

THEME: *Indigenous Health*

Presenter: *Josee Lavoie*

End-stage kidney disease continues to disproportionally impact the lives of First Nations patients. Systemic racism is a key determinant, and manifest as differential access to determinants of health (housing, employment, access to care) and differential care. This presentation discusses how different models of primary health care operating in Manitoba result in different outcomes for patients identified as being at risk of kidney disease.

We used health administrative data held at the Manitoba Centre for Health Policy (MCHP) for the period of 2006-2017, which was linked to the Manitoba First Nations Research File to identify First Nations. Data we used included: Diagnostic Services Manitoba Laboratory Data, Medical Claims, Hospital Discharge Abstracts, Drug Program Information Network Data, Public Canadian Census Files, Manitoba Health Insurance Registry, and Physician Resource File. All records are de-identified.

We identified 12,613 First Nations people with chronic kidney disease (CKD) during the study period. Results show that First Nations individuals with CKD who reside in communities served by Nursing Stations (most remote communities) when supplemented by additional Indigenous programs were consistently more likely to receive follow-up serum creatinine (OR 1.37, 95% CI: 1.30-1.45, $p<0.001$), urine ACR (OR 1.22, 95% CI: 1.16-1.28, $p<0.001$), serum potassium (OR 1.40, 95% CI: 1.32-1.49, $p<0.001$) than individuals who lived in communities served by Nursing Stations alone, Health Centres, Health Offices, or Off Reserve.

Remoteness is not a risk factor for First Nations in Canada, if access to primary healthcare is primarily determined by First Nations managed health services. Addressing the rise in premature mortality experienced by First Nations from kidney diseases require greater investments in first Nations-centric primary health care, that is locally managed.

D7.2 - Prevalence of Multimorbidity and Chronic Diseases in Citizens of the Métis Nation of Ontario

THEME: *Indigenous Health*

Presenter: *Sarah Edwards*

Population-based analyses of Métis health in Canada are limited. The Métis Nation is a distinct nation among the Aboriginal peoples that are recognized and affirmed under Section 35 of the Constitution Act. The Métis Nation is comprised of descendants of people born of relations between First Nation women and European fur traders. The objective of this study was to examine multimorbidity in Citizens of the Métis Nation of Ontario across a 10-year period.

Under a data governance and sharing agreement between the Métis Nation of Ontario and ICES (an independent, non-profit research corporation), registered MNO Citizens were linked to administrative health data in Ontario. An existing data algorithm developed to identify individuals with multimorbidity (2 or more chronic conditions) was applied to the administrative health records for the MNO Citizen population, and the wider Ontario population, 18 years and older. Annual prevalence rates of multimorbidity were calculated and rates in the most recent year were compared across income quintiles, age and sex for MNO Citizens.

The prevalence of multimorbidity increased in the MNO Citizen population from 49.2 per 100 (CI: 48.1-50.2) in 2009 to 61.0 per 100 (CI: 59.9-62.1) in 2018. A consistently higher prevalence rate was seen in MNO compared to non-MNO Citizens across the entire period. Female MNO Citizens had a higher prevalence of multimorbidity compared to males. The prevalence of multimorbidity increased with age in MNO Citizens from 40.5 per 100 (CI: 39.1-41.8) in those aged 18 to 44 years up to 91.6 per 100 (CI: 88.4-98.0) in those aged 65 years and older. An income gradient is evident with MNO Citizens in the highest income quintile having the lowest prevalence of multimorbidity (57.1 per 100) compared to those in the lowest income quintile (66.3 per 100).

MNO Citizens have a higher prevalence of multimorbidity compared to non-MNO Citizens. Variation within the MNO Citizen population was evident. Understanding the burden of multimorbidity in MNO Citizens is essential for the MNO to guide program and policy planning, as well as support decision-making related to resource allocation.

D7.3 - The TransFORmation of IndiGEnous PrimAry HEAlthcare Delivery (FORGE AHEAD): Economic analysis

THEME: *Indigenous Health*

Presenter: *Aleksandra Stanimirovic*

Canada’s First Nation populations have 3-5 times increased risk of developing diabetes, face higher rates of complications and experience poorer treatment outcomes than general population. FORGE AHEAD Research Program has partnered with First Nations communities across Canada to improve chronic disease care and access to available resources by developing community-driven, culturally relevant primary healthcare models. Objective was to determine cost of intervention implementation and intervention’s impact on resource utilization and cost.

This descriptive cost analysis of implementation and pre-post resource utilization of the FORGE AHEAD program used the payer perspective. Costs associated with diabetes management and treatment of complications during the 18-month intervention was compared to standard care of diabetes that participating First Nation communities received the one-year prior (pre). Outcomes were: 1) incremental cost of implementation; 2) all cause hospitalizations (with Length of Stay); 3) all cause specialist visits; 4) clinic visits and; 5) community resource use. We utilized bottom-up approach to tally healthcare resource utilization costs over the study duration using study derived data and published literature. Costs are expressed n 2021 Can$.

Patients were on average 60.5 years old; 57.2% females; median duration of diabetes of 8 years; 87.5% residing in non-isolated communities; 75% residing in communities with less than 5,000 members; 62.5% with access to medical records; 37.5% had an onsite primary care physician. The total cost of program implementation was Can$977,330.98 and the per person/cost was Can$24.76 where labour/staff salaries were the main driver of cost. There was an increase in number and cost of hospital admission visits from 8/Can$52,414.45 (pre) to 243/Can$ $2,229,888.92 (post) and community resource use from 358/ $23,921.79 (pre) to 578/ $35,306.94 (post). Specialist and clinic visits followed the same trend. Diabetes related complications such as foot ulcers were the main reason of hospitalizations.

Inequalities in access to care are associated with development of diabetes and its complications in First Nation communities. Considering intervention’s low cost and increased access to care, FORGE AHEAD represents successful community-driven and culturally based partnership resulting in improved equity and access to resources in participating communities.

D7.4 - Mapping the journey of First Nation patients diagnosed with End Stage Kidney Disease with little prior knowledge of their declining kidney function

THEME: *Indigenous Health*

Presenter: *Tannyce Cook*

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

With the assistance of a First Nation Patient Advisory Group, consisting of up to 5 MB FN individuals with experience as a caregiver to or as a patient on dialysis, we reviewed the University of Adelaide's Health Journey Mapping Tools. This tool guides its users examining a patient's complex experience through the medial system. Group members offered their personal journeys and suggestions which were used to co-create a MB FN ESKD specific patient journey tool and in community dialysis exploration tool. A cohort was then identified consisting of MB FN individuals over 18 yoa with experience as a caregiver to or patient with ESKD.

As interviews with participants continue and analysis is ongoing with an anticipated completion in late 2024. Preliminary consultation and planning with our FN Advisory Group highlighted barriers for Manitoba FN community members including access to local CKD education especially following an abnormal test result, limited transportation to medical appointments, and a lack of visibility of progressed illness within community. Community members with severe disease are required to relocate, those who remain in the community do not have models of living with advanced CKD to learn from.

Preliminary analyses indicate the need to extend local access to secondary prevention of renal disease to all FN communities, such as screening for illness, while implementing/ improving upon tertiary prevention of renal disease within all FN communities.