Day 1: Wednesday, May 24 / Jour 1: Le mercredi 24 mai
Presentations are listed in the language in which they will be presented
Les exposés seront inscrits au programme dans la langue de leur presentation

Poster Presentations

First Nations Ethical Review essential in Age Truth & Reconciliation : HIRGC celebrating 20+years as FNs Regional Research Ethics Committee
Presented by: **Stephanie Sinclair** , Policy Analyst, First Nation Health and Social Secretariat of Manitoba
In order to guide the new Regional Health Survey (RHS, the first First Nations survey by and for First Nations in the world), the Assembly of Manitoba Chiefs established the Manitoba First Nations Health Information Research Committee by resolution in 1996; HIRGC has grown to promote FNs ethical Research standards & Data Since 1996, HIRC was mandated by Chiefs to expand from guiding RHS (eg developing First Nations OCAP principles) to responsibility as the Health Information Research Goverance Committee (Health Directors,and FNs Elder, Youth reps and 2 FNs academics), to review proposals and advise researchers, promote First Nations partnerships in Research, according to Chiefs mandate for research to abide by: Free Prior Informed Consent on a collective and individual basis; First Nations OCAP Principles that FNs have Ownership, Control, Access and Possession of their own data; First Nations ethical standards; benefits to First Nations throughout the research process from design to knowledge to action (KTEA). In HIRGC's 20 years of review of research proposals, they have approved, approved with required changes,or refused to support scores of research proposals. HIRGC is served by the AMC-established entity, Nanaandawewigamig (First Nations Health and Social Secretariat of Manitoba), working together to assist First Nations or Tribal Councils seeking advice on meeting the Chiefs standards for research, and finding partners for research initiatives First Nations identify. Increasingly, First Nations are identifying strength based research as the way to health and healing, especially strengthening languages and cultures, and connections to the lands and waters, as supporting a grounded cultural identity of individuals, families, and Nations. FNs now lead research and educate the universities and research institutes,to ensure our people, Knowledge Keepers & Traditional Healers are respected and trust is being built. Canada, Manitoba and several Provinces have stated they will implement the Truth and Reconciliation Commission of Canada's 94 Calls to Action, which includes the United Nations Declaration of the Rights of Indigenous People. Both documents emphasize First Nations right to self-determination and to health, defined in our own languages as life in balance.
Co-Author(s): Kathi Avery-Kinew, Doris Young, Stephanie Sinclair

A National Surveillance Project on CKD Management in Canadian Primary Care: Overview and representativeness
Presented by: **Aminu Bello** , Assistant Professor/Consultant Nephrologist, University of Alberta
This project has two principal objectives: 1) Determine the current primary health care practice pattern on risk identification and process of care for CKD based on established quality indicators, and 2) investigate the care variation across patients and provider 'demographics, and regional characteristics. Although healthcare is provincially/territorially administered in Canada, existing national networks such as the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) are facilitators for the conduct of nationally based quality improvement-based studies to improve chronic kidney disease (CKD) care. The CPCSSN database contains socio-demographics, treatment, laboratory tests, and comorbidity information. Our approach is to develop a national open cohort of CKD patients managed in Primary Care. This project will demonstrate proof of concept for a new model of care delivery, and may provide the basis for developing relevant policies and knowledge translation strategies to enhance the uptake of our findings. The CPCSSN database was used to develop a cohort of CKD patients being managed in primary care between January 1, 2010 and December 31, 2015. In this cohort, we identified 3,060,836 and 534, 823 available serum creatinine and urine albumin measurements respectively. There were ~381,000 urine albumin measurements in individuals with diabetes compared to ~154,000 measures in those without diabetes. The availability and spread of the measures of kidney function (serum creatinine) and albuminuria that defined CKD are comprehensive across multiple timeframes and disease conditions. To our knowledge, this represents the largest Canadian cohort of CKD in primary care. The coverage and representativeness of the measures appears high and represents an opportunity for understanding the current practice pattern in CKD management. This has implications on providing opportunities for focused and effective CKD care.
Co-Author(s): Cliff Lindeman, Elizabeth Freiheit , Neil Drummond, Paul Ronksley, Alex Singer, Larka Soos , Allan Grill, Navdeep Tangri, Aminu Bello

Interventions Using Pediatric Diabetes Registry Data for Quality Improvement: A Systematic Review
Presented by: **Erica Burry**, Pediatric Endocrinology Fellow, The Hospital for Sick Children
Quality improvement (QI) interventions using diabetes registry data are associated with improved glycemic control, reduced hospitalizations, and other quality indicator improvements, but pediatric-specific data are limited. This systematic review characterizes QI interventions using pediatric diabetes registry data to determine the effect on care processes, care organization, and patient outcomes. We searched Medline, Embase, Web of Science, and Cochrane Central Register of Controlled Trials (from inception to October 13, 2016), and conducted a grey literature search using Google, Google Scholar, Directory of Open Access Journals, and known diabetes registry websites. Studies that evaluated the impact of a QI intervention for diabetes management on care processes, organization of care, or patient outcomes and used pediatric (< 2 1 years) diabetes registry data in the intervention or to evaluate outcomes were included. We included all study designs. Two reviewers independently assessed study eligibility, extracted data, and assessed risk of bias. Of 1213 studies identified, 11 met inclusion criteria. One study from the grey literature was included. After removing duplicates, we excluded 985 studies that either did not evaluate a QI intervention or use registry data. We excluded four studies that did not include pediatric data and two that did not evaluate the impact of an intervention on diabetes management. The type of QI intervention varied; most targeted health systems and health-care providers. Most studies evaluated the effect of the intervention on patient outcomes, such as glycemic control; fewer evaluated the effect on processes or organization of care. The risk of bias was high for most studies. Data analysis is ongoing and the effects according to the type of intervention will be available by May 2017. More rigorous evaluation using control groups is needed to determine the effectiveness of QI interventions using pediatric diabetes registry data. We anticipate that our final results will inform the use of existing registries and the development of new registries for QI purposes.
Co-Author(s): Erica Burry, Noah Ivers, Farid Mahmud, Rayzel Shulman

Applying the Health Links Approach for Adults with Intellectual/Developmental Disabilities and Complex Health Needs in Kingston, Ontario

Presented by: **Meg Gemmill**, Assistant Professor, Intellectual and Developmental Disabilities Program - Department of Family Medicine, Queen's University

People with intellectual/developmental disabilities (IDD) experience poorer access to healthcare compared to others. This pilot aims to assess a novel interministerial model that links Ontario Ministry of Health and Long-Term Care's 'Health Links' program with the Ministry of Community and Social Services' (MCSS) Developmental Services sector for complex patients with IDD. Referrals are made by the MCSS' Pressures and Priorities committee, a group that provides local case management for urgent, complex patients with IDD. Patients and informal/professional caregivers meet with the Health Links nurse to complete a tailored Coordinated Care Plan (CCP). The CCP is disseminated among providers and is intended to help identify goals, document health information and develop an individualized plan. The pilot's implementation and outcomes will be evaluated using mixed methods. Surveys and interviews with patients, caregivers and care providers will explore their experiences and chart review at primary care and hospital levels will examine health service usage. Our presentation includes the various approaches and tools used to facilitate the referral process and engage representatives from the MCSS' developmental services sector, as well as coordinating health care for this vulnerable population. These include a guide to help Health Links nurses complete the standard CCP for adults with IDD (emphasizing their unique and additional needs), a Health Information Passport to ensure safety and communication in emergencies and a recommendation for completing a comprehensive health review in primary care (including physical exam and preventive manoeuvres). We also highlight early results such as patient demographics, patient and system outcomes related to the implementation of the CCPs, as well as barriers and facilitators related to fostering cross-ministerial coordination and collaboration. The goal of the intervention is to increase capacity among health and social care providers to deliver coordinated, patient-centered care to vulnerable and complex patients in our region. This pilot can be used as a framework for the expansion of Health Links interventions that target other vulnerable populations across Ontario's

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COPD in Alberta: Examining the Characteristics and Health Care Use of High Users

Presented by: **Thushara Sivanandan**, Analyst, Canadian Institute for Health Information

Improving care for people with COPD is a priority in Alberta. This study describes the socio-demographic characteristics and health care use of people with COPD to examine: (1) differences between high users and low/moderate users of hospital services, and (2) variations across Alberta's 5 health zones. Comprehensive administrative data from acute care, ambulatory care, physician billings and seniors' drug claims for Alberta were linked to describe people with COPD who had been hospitalized in the study period (April 1, 2012 to March 31, 2014). CIHI's High Users of Hospital Beds indicator was used to further categorize hospitalized people with COPD into high user and low/moderate user groups. Socio-demographic characteristics and health care use were described over one year. Information about health conditions was drawn from CIHI's population grouping methodology and information about health zone of residence from linkage to Census data using residential postal code. Fifty-nine per cent of people identified with COPD had been hospitalized for any reason at least once in the study period. Of those, 15% were High Users of Hospital Beds (COPD high users). COPD high users were, on average, older, had more health conditions, and used more primary care, ED services, and medications than COPD low/moderate users. COPD high users were also more likely to have died at the end of their most recent hospitalization. While the prevalence of COPD was highest in the North Zone, patients visited primary care physicians and specialists less frequently and the ED more frequently than in other zones. Furthermore, fewer COPD high users were discharged from hospital with continuing care services in the North Zone compared to other zones. Regional variations in COPD prevalence and health care use were identified among people with COPD in Alberta. This study highlighted multi-morbidity and high health care needs among COPD high users. Interventions targeting integration and access may improve care for these complex patients and reduce their need for costly hospital care.

Co-Author(s): Yu Janice Zhang, Sara Grimwood, Clare Cheng, Thushara Sivanandan, Geoff Hynes, Sara Allin, Jean Harvey

Treatment patterns, evidence update, survival in esophageal cancer resections in Ontario: a population-based cohort study

Presented by: **Vaibhav Gupta**, Surgery Resident & MSc Candidate, University of Toronto

The purpose of this study is: (1) Define the incidence of esophageal cancer in Ontario, (2) Define the rate of treatment with neoadjuvant, adjuvant, and surgical therapy, (3) Identify variation in practice patters across the province, and (4) Identify factors predictive of receipt of treatments, negative surgical margins, and survival. A retrospective cohort study of esophageal cancer patients in Ontario treated with curative intent between 2002-2015 has been initiated. Adult patients identified through the Ontario Cancer Registry (OCR) were included if they underwent esophagogastrectomy for esophageal or GEJ adenocarcinoma or squamous cell carcinoma. Pathology reports from OCR are being abstracted at ICES and linked to the patient's health administrative data to collect information on demographics, treatment, survival, and cost. Descriptive statistics will explain treatment patterns and regional variation in evidence update. Regression and survival analysis will be used to identify predictors of receipt of treatments, negative surgical margins, and survival. Analysis regarding the incidence of patients with esophageal cancer in Ontario, and the proportion being treated with neoadjuvant, adjuvant, and surgical therapies are expected to be completed by the conference dates. We will assess patients' access to these therapies by looking at regional variations in their use across Ontario, influence of management at a regional cancer or thoracic surgery centre on treatment decisions, and predictors of receipt of treatment based on patient, provider, and system-level factors. Our analysis plan includes looking at distance and socio-economic variables to identify barriers in access to care. Once pathology data is abstracted for variables such as histology, size, location, grade, stage, surgical margin status, and lymph node status, we will identify factors predictive of negative surgical margins and survival. This study assesses the treatment of esophageal cancer in Ontario, its change from 2002-2015 as new evidence has become available, and regional variation in practice. It will identify patient, provider, and system-level factors predictive of patient outcomes. This will help inform clinical care, health policy, service planning, and resource allocation.

Co-Author(s): Vaibhav Gupta, Natalie Coburn

Data Insufficiency for Priority Cancer Care Workforce Research in Canada

Presented by: **Lindsay Hedden**, Postdoctoral Research Fellow, Centre for Clinical Epidemiology and Evaluation

There are several factors that may exacerbate health human resources (HHR) shortages in cancer care, yet, there is surprisingly little known about the cancer control workforce landscape in Canada. This project identifies gaps in existing cancer control workforce knowledge and maps them to available data resources that might address them. A mixed-methods approach was developed consisting of three phases. First, a national "asset map" of existing cancer control workforce data was developed through a general online search to identify potential database holders. In addition, key informant interviews were conducted to verify findings and identify other potential data sources. Second, we conducted a scoping review of the academic and grey cancer control HHR literature to identify key workforce-related questions in cancer care. Finally, we mapped the key workforce questions to the existing data sources. Fifty-four data holders responded to requests for information and 41 relevant databases were identified. Thirty-two studies met the inclusion criteria of our literature review, identifying four general categories for cancer workforce research priorities: access to care and supply of cancer workforce; overtime/unpaid time; job dissatisfaction and absenteeism; and increased pressure to meet patient expectations/needs. Data elements within the relevant databases contain limited information that could be used to address the identified cancer workforce research priorities. In most cases, existing databases available to researchers could be used to describe socio-demographic information about individual professions, including their distribution, education, and employment. Information from provincial and territorial physician payment databases could be used to make some estimate of current supply of physicians working in cancer care. Available data currently prevent researchers and decision-makers from addressing the key research priorities within the cancer workforce, and from accurately estimating current and future service supply in this area. Little progress has been made to ensure timely access to data sources that would help us address these HHR challenges.

Co-Author(s): Olena Schell, Lindsay Hedden, Morris Barer

Conditions and factors associated with potentially inappropriate medication use in frail older adults: a mixed methods analysis in long-term care

Presented by: **Michelle Zahradnik**, Research Coordinator, St Michael's Hospital

Older adults in long-term care (LTC) are often frail and have multiple chronic conditions that increase their exposure to multiple medications and risk for inappropriate medication use, adverse events, and higher healthcare utilization. This multi-method study explored conditions and factors associated with potentially inappropriate medication (PIM) utilization with older adults. An embedded single case design with cross case synthesis. Using Ontario linked administrative data as a sampling frame seven LTC facilities located across Ontario were recruited using maximum variation sampling based on facility size, median frailty level of residents and average rates of polypharmacy across residents. Within each facility, the following priority drug categories were examined: antimicrobials; antipsychotics; cholinesterase inhibitors; and lipid-lowering medications. For each LTC facility, data sources included chart reviews, observations, interviews with administrators/providers and patients/families. An iterative directed content analysis was employed to analyze interviews and observation field notes. Several thematic groups emerged from the data collected from 15 administrators and directors of care; 17 residents; 31 caregivers; and 64 healthcare providers on experiences and perceptions associated with PIM including: 1) reconciling the use of antipsychotics as a last resort; 2) lacking knowledge of resident and their medication history; 3) viewing 'doctor knows best' with limited awareness of what medications they are on; and 4) varying levels of family engagement. The following recommendations to optimize prescriptive practices emerged: 1) providing education; 2) accessing and enacting behavioural support; 3) upholding bill of rights/legislation; 4) staffing appropriately and having clarity of roles; 5) implementing 'best practices' on assessing, monitoring and documenting; and 6) leveraging internal and external resources. Study findings highlight the experiences, perceptions, conditions and factors associated with PIMs with older adults in LTC. Further, mitigating strategies to minimize PIM utilization were identified by study participants that can inform future interventions aimed at optimizing prescriptive practices with older adults in LTC.

Co-Author(s): Michelle Zahradnik, Lianne Jeffs, Marilyn Steinberg, Saul Kruger, Colleen Maxwell, Chaim Bell, Andrew Morris , Susan Bronskill

Developing Decision-Support Tools to Improve Residential Care for Canadian Seniors

Presented by: **Koffi Kpelitse**, Senior Analyst, Canadian Institute for Health Information (CIHI)

The objective of this work was to update the case mix system for residential care assessment data in Canada: the Resource Utilization Groups version III (RUG-III). This system includes a grouping methodology as well as a relative resource use indicator termed the case mix index (CMI) value. Methodological issues with the RUG-III grouping methodology were addressed by applying staff time measurement (STM) data from the Canadian staff time resource intensity verification (CAN-STRIVE) study lead by the University of Waterloo in 2005-2007. This STM data and relative wage rates from the annual Ontario Hospital Association (OHA) wage rate survey were used to derive new CMI values. These new CMI values will be applied to residential care assessment data submitted to the Canadian Institute for Health Information (CIHI). This work resulted in a new grouping methodology called Resource Utilization Groups version III Plus (RUG-III Plus) and associated CMI values. Like RUG-III, the RUG-III Plus grouping methodology is also organized into 7 clinical categories (from lowest to highest clinical complexity) and 44 groups. In RUG-III Plus, the criterial for three of the groups and three of the categories are updated to better align with data capture in the new suite of residential care assessment tools. The clinical hierarchy for the behaviour and impaired cognition categories are reversed because the CAN-STRIVE data demonstrated higher staff time for residents classified in the behaviour problems category. The CMI values were updated to better reflect staff time provided to residents in Canadian residential care organizations. RUG-III Plus represents the first update to residential care case mix system in Canada in 20 years. Once implemented in CIHI analytical products and reporting tools, RUG-III Plus will provide a more appropriate tool to identify peers and examine time series trending among CCRS organizations.

Co-Author(s): Koffi Kpelitse, Cristina German

Screening History in Women with Cervical Cancer

Presented by: **Diane Green**, Senior Analyst, Cancer Screening, Cancer Care Ontario

To determine how cervical screening history affects the presentation of cervical cancer. Index cases are identified in Ontario cancer registry and linked to a cervical cytology database using a patient unique identifier. Screening history data goes back to the year 2000. 2206 women were diagnosed between 2011 and 2014. Age distribution of the cohort is: 21-29: 6%; 30-39: 19%; 40-49: 26%; 50-59: 21%; 60-69: 15%; 70+: 13%. Screening history prior to the diagnosis for the entire cohort follows: 2-5 years: 47%; 5-10 years: 17%; 10+ years/ never: 36%. Rate of being remotely screened (10+ years /never) increased with age: 21-29: 15%; 30-39: 19%; 40-49: 31%; 50-59: 41%; 60-69: 48%; 70+: 60%. Stage distribution of the cohort: IA: 29%; IB: 25%; II 16%; III: 18%; IV: 12%. Advanced disease was associated with remote screening history of 10+ years/never and is as follows by stage at diagnosis: IA: 27%; IB: 25%; II: 46%; III: 49%; IV: 58%. Cervical screening history becomes more remote with age and stage of disease. 46.5% of women with cancer had a pap within 2-5 years prior to their diagnosis; evaluation of the screen results will provide insights into screening failures. It is possible that screening may be protective against advanced cervical cancer.

Co-Author(s): Rachel Kupets, Li Wang, Julia Gao, Diane Green

Cervical Screening and Colposcopy Management of Women Ages 24 and Under

Presented by: **Li Wang**, Research Associate, Cancer Care Ontario

In many jurisdictions age of initiation of screening is 21 years, and women ages 21-24 with cervical dysplasia are considered special population who should be managed conservatively. The purpose of this study is to assess cervical cancer screening and colposcopy management for women ages 24 and under. A population based retrospective cohort study linked Registered Personal Database to screening cytology data and health care administrative databases from 2012 to 2014 by women's unique health number. Among 270,391 Pap tests performed, age distribution for women ages 12-17, 18-20 and 21-24 were 5.5%, 24.3% and 70.1%. The trend revealed a decreasing proportion of women ages 12-20 who had a Pap test: 36.7% of cohort in 2012 to 15.2% in 2014. 87.0% of Pap smears were normal; 12.1% low grade; 0.5% high grade. Of index LSIL smears, referral rates to colposcopy in ages 12-17, 18-20 and 21-24 were 21.8%, 45.1% and 51.4% respectively. Of index HSIL smears, referral rates to colposcopy in ages 12-20 and 21-24 were 81.1% and 91.4%. In women ages 12-20 and 21-24 rate for carcinoma in situ were 41.9 and 393.5 per 100,000 women, while the rates were 0.3 and 2.4 per 100,000 for cancer. Screening and treatment of very young women with cytologic abnormalities is still occurring despite low underlying risks of serious dysplasia.

Co-Author(s): Rachel Kupets, Li Wang, Julia Gao, Anna Koné

Leveraging community-based "Resources" to transform healthcare in Manitoba First Nations Communities

Presented by: **Grace Kyoon-Achan**, Research Fellow, University of Manitoba

Manitoba First Nations rely on external resources to provide healthcare services in communities that are often portrayed as being dependent on the contribution of governments and government funded resources for their health and survival. But that position does not credit the complex contribution made by local strengths, skills and knowledge. This qualitative and collaborative study involved 8 First Nations communities in Manitoba the design, implementation and analysis. Interviews were conducted by community-based local research assistants. In thinking about primary healthcare on reserves, participants shared what they consider to be the strengths that their communities leverage to promote health and wellbeing. 299 in-depth interviews were collaboratively analyzed with community partners and further analysis was done using Nvivo software. Important themes include the role of individuals in the community who are committed to positive change and transformation, they act as advocates for the health of individuals, families and communities. The role that culture and community-based processes and activities play in challenging deeply embedded factors affecting health. Independent local sharing economies that augment nutrition and other needs of communities and livelihoods that are created by local economies and result in community-grown solutions to combat dependency and helplessness. Communities are also well positioned to prioritize resources and programming to suit immediate and long term healthcare needs. The key to transform seemingly intractable health crises in communities, may lie in strengthening existing community-based sources of health capital. Awareness and support of benign innovations and innovators will involve placing resources in the hands of communities to boost the efficacy of sustainable solutions to the current health crises.

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Generic Drugs in Canada, 2015

Presented by: **Karine Landry**, Economic Analyst, PMPRB

Generics360 is a PMPRB publication series that compares the price of generic drugs in Canada with those in other industrialized countries. This edition focuses on the 2015 calendar year and includes an analysis of the OECD market. The analysis compares the manufacturer ex-factory generic prices of a large sample of drugs in Canada with their corresponding international prices. International comparisons focus on the seven countries the PMPRB considers in reviewing the prices of patented drugs (PMPRB7): France, Germany, Italy, Sweden, Switzerland, the UK and the US, as well as select countries in the Organisation for Economic Co-operation and Development (OECD). Data was collected from the IMS AG MIDAS™ Database. Generic prices in Canada have been reduced by half over 2010 to 2015, markedly narrowing the gap between Canadian and foreign prices. Both provincial generic pricing policies and the depreciation of the Canadian dollar contributed to the decrease in the difference between foreign and Canadian prices. While the provinces markedly reduced the prices of generic drugs for all Canadians through the implementation of generic pricing policies, prices in other countries continue to be lower. This analysis is designed to inform policy discussions related to the Canadian prices of generic drugs.

Co-Author(s): Elena Lungu, Karine Landry

Exploring the Needs, Access, and Understanding of Information among Culturally and Linguistically Diverse (CALD) Patients in Managing Chronic Illness

Presented by: **Sylvie Lambert**, Assistant Professor, McGill University

Culturally and linguistically diverse (CALD) patients often do not have access to the health information needed to manage their chronic illness. This study explored the information needs of CALD patients managing a chronic illness, how they access and understand health information, and how existing translated resources address their information needs. Using a qualitative descriptive approach, a convenience sample of 10 patients of Italian, Chinese, and Greek backgrounds diagnosed with a chronic illness were recruited at several Montreal-based health centres. Face-to-face, semi-structured interviews were conducted with a researcher who spoke the language or with an interpreter. At the end of the interview, participants completed a sociodemographic questionnaire in their language. All interviews were audio-recorded and transcribed verbatim. Inductive content analysis was used to identify codes, categories, and emerging themes. Four Italian, five Chinese, and one Greek patient(s) aged from 42 to 83 years were interviewed. Diagnoses included diabetes, cardiovascular disease, and cancer. CALD patients focused explicitly on information needs related to medical and lifestyle management, with variability noted based on illness appraisal. Information needs pertaining to psychosocial management were more implicit and identified throughout the interviewing process. The physician is the designated gatekeeper of health information and family and friends are the primary support for interpretation and translation. Online sources are typically not used. Native language use is preferred when possible or lay terms in English/French. Culturally-adapted available resources are considered to be useful as reminders and should be available in both English/French and native languages, with topics on health promotion. CALD patients managing chronic illness were found to have varying information needs; revealed difficulty accessing and understanding health information; and would prefer bilingual, culturally-adapted health information materials. Study findings can inform how to improve current interventions and services and how health care professionals can better fulfill CALD patients' information needs.

Co-Author(s): Sylvie Lambert, Tracy Nghiem, Jane Li, Andrea Maria Laizner , Nathalie Folch, Christine Maheu, Élisa Gélinas-Phaneuf, Ellen Rosenberg, Sylvie Dubois , Karissa Clayberg

A qualitative analysis of the needs, access, and understanding of information among caregivers of patients from a culturally and linguistically diverse background with a chronic illness

Presented by: **Sylvie Lambert**, Assistant Professor, McGill University

To explore (a) the information needs of caregivers of culturally and linguistically diverse (CALD) patients, (b) their access to the information they need to take on their caregiving role, and (c) caregivers' opinions of available educational support Eleven caregivers of CALD patients were recruited from outpatient clinics associated with academic health care centres in Québec, Canada. Caregivers were nominated by eligible CALD patients identified by a member of their health care team. Caregivers also self-referred to the study through community-based advertisement of the study. Consenting caregivers participated in a face-to-face interview with a research assistant. A qualitative descriptive design and inductive content analysis were used to identify emerging themes. Caregivers described two categories of information needs: perceived and unperceived. Perceived information needs were explicit, and centered on management of medical tasks. Unperceived needs were initially unrecognized knowledge gaps that emerged during interviews and mostly focused on managing emotions, self-care strategies, and skills training. Traditional sources of health information, notably healthcare providers (HCPs), addressed caregivers' perceived, but not unperceived needs. Caregivers described a "village" approach to caregiving, which allowed for division of roles and responsibilities among the caregiver network of individuals. A few participants expressed difficulty in understanding illness-management instructions, and/or faced challenges in communicating this information to the patient. All caregivers reported that caregiver materials had the potential to meet both their perceived and unperceived needs. Conveying health information to patients in their native language is challenging for caregivers. HCPs may not be equipped to provide information on emotional and role management aspects of caregiving. Research should explore the information needs of the caregiving network to develop instructional materials that meet their perceived and unperceived needs.

Co-Author(s): Jamie Schaffler, Sarah Tremblay, Andrea Maria Laizner , Sylvie Lambert

An Incentive Code for Timely Follow-Up After Hospital Discharge in the Province of Ontario

Presented by: **Lauren Lapointe-Shaw**, Doctoral Student, University of Toronto

Financial incentives to improve follow-up after hospital discharge have been introduced in the United States and Canada, but it is unknown whether they have been successful. Our objective was to evaluate the impact of a financial incentive program on timely physician follow-up after hospital discharge. This was an interventional time series analysis using health administrative data for of all medical and surgical patients discharged home from hospital between April 1st, 2002 and January 30th, 2015 in Ontario, Canada. The intervention was a supplemental billing code (value of $25 Canadian) introduced October 1st, 2006, for physician follow-up within 14 days of discharge from hospital. The primary outcome was an outpatient visit within 14 days of hospital discharge. Secondary outcomes were 7-day outpatient follow-up and a composite of emergency department visits, non-elective hospital readmission, and death within 14 days. There were 8,008,934 patient discharges included over the study period. Follow-up occurred for 44.3% (n=3,545,105) within 7 days and 66.0% (n=5,284,742) within 14 days. By 14 days after discharge, 17.1% (n=1,369,382) had reached the composite outcome. The incentive code was claimed in 31% of eligible visits, by 51% of eligible physicians, and cost $17.5 million over the study period. There was no change in rates of 14-day follow-up (p=0.50), 7-day follow-up (p=0.51), or the composite outcome (p=0.19) after the incentive was introduced. Despite uptake by physicians, a financial incentive did not alter follow-up after hospital discharge. This lack of effect may be explained by features of the incentive and/or by extra-physician barriers to follow-up. These should be considered by policymakers before introducing similar initiatives.

Co-Author(s): Lauren Lapointe-Shaw, Muhammad Mamdani, Jin Luo, Peter Austin, Noah Ivers, Don Redelmeier, Chaim Bell

Fee-for-service physician billings through the 2008-09 financial crisis: Did Physicians Change Behaviour?

Presented by: **Ruth Lavergne**, Assistant Professor, Simon Fraser University

Fee-for-service physicians are largely responsible for planning for their retirements. Changes in financial markets may influence how long they remain in practice and how much they choose to work. The 2008 financial crisis provides an opportunity analyze elasticity of physician service supply in response to dramatic changes in financial markets. We examined quarterly fee-for-service data from CIHI's National Physician Database covering all Canadian provinces and territories, with the exception of Prince Edward Island and Yukon territory, over the period from 1999/2000 to 2013/14. We examined changes in the number of specialist physicians, per-physician service volume, and fee-for-service (FFS) payments following the financial crisis in fall 2008, relative to pre-crisis trends. We explored whether patterns differed by physician age, sex, specialty, and by the type of service provided (visits or consultations vs. procedures). We fit segmented regression models to population-level data, adjusting for seasonality and correlation between observations. The number of physicians billing fee-for-service increased in the years following the financial crisis, but this was driven largely by increased numbers of young physicians entering practice. We observed no relative increase in the number of fee-for-service physicians ages 55 and older. This suggests that the crisis did not measurably alter the timing of retirements. Average per-physician billings increased significantly in the post-crisis period, amounting to an additional $30,000 (CAD) per physician in annual billings relative to amounts predicted by pre-crisis trends. However, the average number of services per physician did not increase relative to pre-crisis trends. Increases in billings were driven by primarily by increases in per-service medical specialist billings for visits and consults. We observed no evidence of delayed retirement or increased service volume in the post-crisis period. Increases in payments were observed across all ages and were not driven by increases in service volume immediately following the financial crisis.

Co-Author(s): Ruth Lavergne, Lindsay Hedden, Kimberlyn McGrail, Michael Law, Megan Ahuja, Morris Barer

Comparing models of care in community paramedicine using case study analysis

Presented by: **Matthew Leyenaar**, PhD Candidate, McMaster University

Using the findings of a literature review, a comparative case study analysis was conducted to summarize aspects of care planning and case management in community paramedicine (CP) programs. The comparative case study analysis complemented the literature review by clarifying concepts and identifying gaps in the published literature. The literature review consisted of a systematic search strategy, pre-determined inclusion/exclusion criteria, multiple reviewers to reduce bias in study selection, and a standardized data extraction tool. Ten studies that met inclusion criteria served as subjects for the case study analysis. The case study analysis investigated: Who was seen? What was assessed? What care was provided? And the rationale for these aspects within the respective models of care. The corresponding authors for each of the articles were consulted to confirm findings. Comparison between findings was used to compare and contrast models of care. Aspects found in the different models of care were grouped into four themes; enrolment, assessment and management, intervention and care, and collaboration. Patient enrolment in CP programs is usually initiated by paramedic services. Other approaches are patient initiated – either at time of need or through self-selection. Community paramedics use a variety of assessments, often including a functional assessment, and provide point-of-care testing to inform the provision of care and treatment. Treatment without the use of medications and avoidance of hospital emergency departments were the most common aspects of care and intervention. Care plans regularly have a formalized means of communication with other care providers. In all 10 cases, this included collaboration with primary care or family doctors. Community paramedicine provides immediate or scheduled care with a focus on collaborative approaches to reduce emergency utilization. We cannot conclude that all identified aspects of care planning or case management found in this analysis constitute a fully comprehensive model of care. Future work is needed to develop of CP standards of care.

Co-Author(s): Matthew Leyenaar, Brent McLeod, Joyce Chan, Andrew Costa, Gina Agarwal

Perceived Social Support Trajectories and All-Cause Mortality Risk in Coronary Artery Disease

Presented by: **Zhiying Liang**, Statistical Associate, University of Calgary

Perceived social support has been acknowledged as an important predictor of health outcomes in cardiovascular diseases. The aim of this study is to investigate the effects of perceived social support trajectories on risk of mortality and health-related quality of life in coronary artery disease (CAD) patients. Data were obtained by linking the Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease, a population-based registry of CAD patients who received catheterization in Alberta. Perceived social support was measured using the Medical Outcomes Study (MOS) Social Support Survey, a 19-item self-reported measure of social support that consists of four domains including emotional/informational, tangible, affectionate, and positive social interaction. Growth mixture analysis was used to estimate latent classes of perceived social support trajectories over time. Cox regression was used to assess the effects of perceived social support trajectories on all-cause mortality controlling for patients' demographic and clinical characteristics. Of the 5159 patients included in this analysis, 535 (10.4%) deaths were reported within five years of first catheterization and 3092 (60.0%) completed MOS Social Support Survey at baseline. Growth mixture analysis revealed three latent classes of support trajectories: high (36.1%), moderate (45.4%), and low (18.5%). Unadjusted analysis revealed significant association between trajectories of social support and all-cause mortality (p < 0.05). After controlling for sex, age, type of treatment, depression symptoms, body mass index, history of myocardial infarction, and number of comorbidities, Cox regression analysis revealed that perceived social support trajectories was no longer significantly associated with all-cause mortality. This study highlights the important role that perceived social support plays in management of CAD. These findings can aid the design of targeted social interventions that promotes tangible and emotional support in individuals with CAD.

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Priority setting for cataract surgery: Development of an appropriateness and prioritization instrument for eye care practice

Presented by: **Morgan Lim**, Associate Scientist, Trillium Health Partners

Cataract surgery priority criteria in Ontario are too generic and not based on clinical or quality of life (QoL) factors relevant to ocular disease. The purpose of this study is to develop an Ontario specific tool to assess appropriateness and prioritization of cataract surgery through modification of an existing tool. A modified Delphi process was followed using online surveys with 3 rounds of participation and a face-to-face meeting to reach consensus. The survey consisted of criteria from the existing instrument (Western Canada Wait List Project), additional items from other instruments and expert recommendations. An expert panel in eye care was assembled using snowball sampling and asked to rate the relevancy of each criteria on a 5-point Likert scale. Clinical scenarios based on these criteria were used to assess inter-rater reliability. Agreement was measured using the kappa statistic. To contextualize patient experience, 3 patient stories were filmed and shared with panelists. The expert panel consisted of 9 Ophthalmologists, 3 Optometrists, and 1 General Practitioner. Following the face-to-face meeting, consensus on whether to include or exclude was reached on all criteria. Seventeen criteria were included and sixteen were excluded. The most significant changes to the existing instrument were related to categorization of comorbidities and expansion of HRQoL questions. Seventeen clinical scenarios were developed based on these criteria. The expert panel assessed these scenarios against the criteria, showing moderate (n=6, kappa 0.41-0.6), good (n=7, kappa 0.61-0.8), and very good (n=3, kappa 0.81-1) agreement. Using the Delphi process we have modified the WCWL to include appropriateness and to better reflect patient QoL. Our next step is to calculate a scoring algorithm for the instrument using patient collected data.

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Licensed/Registered Practical Nurses in Rural and Remote Canada: Key Concerns for Recruitment and Retention

Presented by: **Martha MacLeod**, Northern Health-UNBC Knowledge Mobilization Research Chair, University of Northern British Columbia

Licensed practical nurses (registered practical nurses in Ontario) (LPNs) are seldom specifically considered in studies of nursing recruitment and retention. The purpose is to identify key personal, practice, and workplace characteristics of LPNs in rural and remote Canada, to better understand LPNs' contributions to the rural and remote workforce. A survey was mailed to a stratified systematic sample of registered nurses, nurse practitioners, registered psychiatric nurses, and LPNs in communities of 10,000 or less in every province and all nurses in the territories, with the assistance of nursing regulatory bodies. The Canada-wide survey response rate was 40% (3822) and the LPN response rate was 38% (1,370). Included were questions on demographics, employment status, work setting, satisfaction, scope of practice, perceptions of primary health care in their workplaces, career plans, and intention to retire. Data were analyzed through descriptive and inferential statistics along with thematic analyses of qualitative data. Rural LPNs worked in a full range of practice settings including primary care, acute care, community health, home care, mental health and addictions, and long-term care. Rural LPNs were more likely than other rural nurses to be employed in part time permanent and casual positions, and were less likely to live in their work communities. LPNs were also less likely than other rural nurses to be satisfied with their work communities and nursing practice and more likely to report working below their regulated scope of practice. Findings will also focus on rural LPNs' perceptions of primary health care in their workplaces, engagement with interprofessional teams, practice demands and resources, career plans, experiences of rural practice, and what it means to work in rural/ remote settings. Nursing Practice in Rural and Remote Canada II (RRNII) is the first-ever comprehensive study of the rural and remote LPN workforce. The survey findings provide important information for planners and policy makers, particularly in determining an optimal staff mix in primary health care settings in rural and remote Canada.

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"The messiest space for technology adoption" : Barriers and Facilitators to Enabling Health Technology Innovation and Adoption for Canadian Older Adults

Presented by: **Maggie MacNeil**, Ph.d Student, University of Waterloo

Innovative technologies have the potential to enhance the health and quality of life of older persons; however, there are considerable barriers to developing and implementing new health technologies in Canada. We identified policy and regulatory barriers to, and facilitators of, successful innovation and safe adoption of aging-related technologies in Canada. This study is part of AGE-WELL, a Canadian Network of Centres of Excellence focused on technology and aging. We conducted forty semi-structured interviews with policy-makers, innovators and other stakeholders. Interviews were transcribed and analyzed by two independent researchers using NVivo11. Analysis followed a directed coding approach (Hsieh & Shannon, 2005) aimed at mapping the data to the Council of Academic Hospitals of Ontario framework (Michell, 2014), which was further expanded by our scoping review (submitted for publication) (MacNeil et al, 2017). This framework describes key stages of the healthcare innovation pathway and specific themes that crosscut this pathway. The interviews revealed barriers of particular relevance for older persons. For example, pathways for uptake of technology in home and community care are less clear than pathways for technology adoption in acute care and other health care settings(ie. long-term care). Differences stem from technology assessment processes that do not prioritize, or have the capacity to assess, new or emerging health technologies; rigidity in procurement systems; and an underfunded community care sector. Facilitators include a transition towards value-based procurement; open, early communication in the innovation process to ensure technologies align with system needs; and ability to move resources among the silos across the health care system. Health system structures, path dependency and current funding models may be bigger barriers than regulatory processes to enabling the successful development and adoption of aging-related technologies in Canada. Further work and research are needed to identify strategies to enable more timely and effective use of aging-related technologies.

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Examining the Drivers of High Cost Healthcare Use in Prince Edward Island

Presented by: **Michelle Patterson**, Research Manager, Centre for Health and Biotech Management Research

Our research aims to use administrative health data to identify the main drivers of high cost healthcare use to identify key actionable areas to target in order to improve the efficiency and effectiveness of healthcare delivery to a population of high cost users in Prince Edward Island. Healthcare costs (physician billing and acute inpatient stays) were determined for individuals aged 30+ on PEI between 2012-13 and 2014-15. Each individual was assigned a percentile ranking based on their annualized adjusted cost for each year of the study. Chronic disease prevalence and measures of neighbourhood level socio-economic status were assigned to each individual. Trends in healthcare spending among the top 1%, 5%, and 10% of healthcare users were analyzed. The relationship between chronic disease prevalence and the social determinants of health with high cost use healthcare use was examined for all study years. The top 5% of healthcare users account for just under three-quarters of healthcare spending, while the top 1% and 10% of healthcare users account for 41% and 84% of costs, respectively. Modest reductions in spending among this small portion of the population could result in millions of dollars in recovered costs. Chronic conditions were significantly more prevalent among the top 5% of healthcare users. There was also a significant relationship between levels of material and social deprivation, and the concentration of high cost health care users in a neighbourhood. Additionally, it was observed that the rate of high cost healthcare use varied greatly between neighbourhoods. Our analysis revealed variation in rates of high cost users across PEI, and a relationship between high cost use, chronic disease prevalence, and the social determinants of health. Further work is underway involving more advanced and in depth analyses aimed at further understanding this population of high cost users.

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Development and pilot testing of a decision aid for dementia patients in long-term care in Saskatchewan and their surrogate decision makers

Presented by: **Leslie Malloy-Weir**, Postdoctoral Fellow, University of Saskatchewan

The main objective of this study is to develop and pilot test a decision aid for antipsychotic medications that: (1) meets the information needs of dementia patients in long-term care and their surrogate decision makers; and (2) promotes informed decision making, patient-centred care, and patient safety. The decision aid will be developed using a systematic process that involves assembly of a steering group (i.e., dementia patients and their surrogate decision makers, physicians, nurse practitioners, social worker, pharmacist). This group will: (1) identify the decisional needs of patients and surrogate decision makers and their preferred informational format(s), and (2) assess evidence on antipsychotic medication use in long-term care. After a prototype of the decision aid has been developed, it will be pilot tested with dementia patients, surrogate decision makers, physicians and nurse practitioners who are making actual decisions about the use, or non-use of antipsychotic medications. Quantitative results will include mean ratings of the decision aid's acceptability, comprehensibility, and feasibility by dementia patients, surrogate decision makers, physicians and nurse practitioners. Statistically and non-statistically significant changes in patient and surrogate decision maker's knowledge about antipsychotic medications (i.e., risks, benefits, side effects); treatment preference (antipsychotic medication, no antipsychotic medication, unsure); decisional conflict; and satisfaction with the decision pre- and post-exposure to the decision aid will also be reported. Qualitative findings will include perceptions about the usefulness of the decision aid for decision making purposes, positive aspects of the decision aid, and recommendations for improvement. Qualitative findings will be used to help interpret quantitative findings. Findings from this study will: (1) address existing gaps in knowledge, (2) reduce uncertainties around how to implement patient decision aids in Saskatchewan and elsewhere in Canada, and (3) inform policy and practice on how information about antipsychotic medications is communicated to patients with dementia and/or their surrogate decision makers.

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Developing Person-Centred Quality Indicators Informed by the Patient Voice

Presented by: **Kimberly Manalili**, Research Associate, University of Calgary

Despite efforts being made across Canada to implement and measure Person-Centred Care (PCC), quality indicators informed by patient needs, preferences, and values are lacking. Our study aimed to better understand what matters most to diverse communities with respect to their healthcare, to develop indicators from patient and caregiver perspectives. We partnered with the Ethno-Cultural Council of Calgary to obtain diverse perspectives and experiences with healthcare. We engaged "Community Connectors," trained in qualitative research to recruit participants and conduct focus group discussions (FGDs) with 6 ethno-cultural communities, including Chinese, South Asian, Filipino, Latino-Hispanic, East African, and Syrian communities. Additional participants were recruited from the Alberta Health Services Patient and Family Advisory Group (PFG), representing long-term residents of Canada and/or are Canadian-born or Indigenous to participate in FGDs. Connectors and research staff conducted transcription/translation. Data was analyzed using content thematic analysis, and findings were validated by the Community Connectors and PFG. A total of 8 FGDs were conducted, with 65 participants comprised of people from different ethnicities/cultures, genders, ages (18-80 years), rural/urban communities, living with disability(ies), are Indigenous, and/or identified as LGBTQ+. Participants shared positive and negative perceptions and experiences with healthcare, including cultural-specific perspectives, needs, and values. Analysis resulted in broad themes and sub-themes, which will provide a basis for the development of patient-informed quality indicators that are also culturally relevant/appropriate. Themes included: access to care; cost of care; medical tourism and consultation; equality of care; communication; patient and caregiver engagement; preferences for care; expectations of care; professional ethics; and patient safety. Participants also offered suggestions for improvements to the healthcare system, including online access to their health information and needed education on patient rights. Our study provided us with the opportunity to better understand diverse perspectives on the healthcare system. In order for quality indicators to be person-centred and improve health and healthcare for all, they must be developed with input from patients and caregivers that reflect the diversity of Canada.

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Collaborating with Ethno-Cultural Communities for Person-Centred Care Research: Approaches to Engagement
Presented by: **Kimberly Manalili**, Research Associate, University of Calgary
Person-Centred Care (PCC) seeks to incorporate patient voices to inform research and healthcare policy and practice. However, effective engagement of diverse and under-represented communities is often a challenge, due to various barriers that hinder participation. Our research explored approaches to effectively engage ethno-cultural communities in qualitative PCC research. Challenges in engaging ethno-cultural communities in healthcare and research include potential language and cultural barriers, and lack of availability or resources. Thus, we partnered with The Ethno-Cultural Council of Calgary (ECCC), a community-based organization employing a 'broker/connector model,' to engage key individuals with an extensive reach within their communities. "Community Connectors" liaise between their specific community and service providers/institutions. We drew on participatory action research methods, and identified 6 Community Connectors with an interest in research from Chinese, South Asian, Filipino, Latino-Hispanic, East-African, and Syrian communities, who received training in conducting qualitative research for our PCC study over 6 months. Through active engagement of the Community Connectors, we were able to obtain diverse perspectives needed for our PCC study. 46 participants for 6 focus groups were recruited in August-September 2016. We documented successful and flexible approaches to engage communities in ways that were most suitable or appropriate for a particular community. Various methods included: recruiting participants through their own networks, including use of ethnic media sources; conducting focus groups in other languages, to accommodate language barriers; and use of community settings during evenings/weekend, to accommodate access, availability, and comfort. Through this study, we initiated ongoing partnerships with ECCC and together built research capacity among the Connectors, in the aim of continuing sustained and meaningful engagement with diverse communities through our PCC research. Partnering with a community-based organization and exploring various approaches to engaging ethno-cultural communities allowed us to obtain diverse perspectives needed for our PCC research. Incorporating patient voices requires addressing potential issues related to equity and understanding the barriers to effective and meaningful engagement that is representative of Canada's diverse make-up.
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Early integration of palliative care in Ontario: INTEGRATE quality improvement project
Presented by: **Sharon Gradin**, Manager Integrated Care, CCO
The INTEGRATE Project aims to identify and manage patients who would benefit from a palliative approach to care early in the illness trajectory and across healthcare settings, through educational resources for primary care (PC) and oncology providers and through the testing of integrated models designed to manage identified patients. Palliative care integrated models have been pilot tested in 4 regions in Ontario (4 cancer centres (CCs) and 4 primary care (PC) practices). All participating sites completed Pallium Canada's LEAP module, which provides primary level palliative care education. The need for a palliative care approach for a given patient is identified using the Surprise Question "Would you be surprised if this person died in the next 6-12 months?" Data collection began following implementation, sites submitted patient-level data to evaluate the integrated models and its impact on patients' care. Implementation of the surprise question began in November 2014 and to date, 294 patients have been identified through participating PC practices, and 933 patients through regional CCs within their Multidisciplinary Cancer Conferences. The integrated models specify that identification of patients with the surprise question should initiate a palliative approach to care, including symptom assessment, Advance Care Planning and Goals of Care discussions, and referrals as needed. PC practices have reported a variety of life-limiting diagnoses for their patients including cancer, heart disease, and renal disease, among others. Participating CCs targeted specific cancer sites: lung, gastrointestinal, glioblastoma and head and neck. Analyses are underway to assess completion rates of Advance Care Planning discussions, palliative care referrals and healthcare utilization, and will be complete by February, 2017. This project has the potential for significant impact on organizational and health system design for patients and their families who will benefit from earlier identification of palliative care needs in both the PC and oncology setting. The results of evaluation will translate into provincial recommendations for Ontario.
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Accessing health and social care services within a suburban community: A case for interprofessional and collaborative networks to improve community-based care
Presented by: **Derek Manis**, Teaching Assistant, University of Ontario Institute of Technology
Health services and policy research literature examines HIV in urban or rural communities, but suburban communities have not received attention, despite how most of the Canadian population lives within one. We investigated how people living with HIV (PLWH) in a suburban Ontario, Canada community access health and social care services.   PLWH were recruited by two methods: the regional AIDS Service Organization or snowball sampling. In-depth interviews were conducted, recorded and guided by hermeneutic phenomenology associated with Martin Heidegger. All interviews were transcribed verbatim and housed within the Google Apps for Education platform. Every co-participant had the opportunity to review their interview transcript and add, delete or modify any of their statements to capture their experience in as much detail as they felt appropriate. Transcripts were exported to NVivo for Mac version 11.2.1 for coding and data analysis. Data saturation was reached after the 13th interview. Data analysis of the co-participants' experiences revealed concerns regarding how they kept their HIV status secret within their suburban community, especially within pharmacies when filling their prescriptions. Co-participants also shared stigmatizing experiences attributed to a lack of education about HIV by health care practitioners (e.g., pharmacists, physicians and nurses) and by others within their community. Ageing with HIV identified the development of multimorbidity and complex care needs, which were suboptimally managed by health and/or social care practitioners working in isolation. The reliance upon public transit as a primary mode of transportation was a significant barrier for many co-participants and illustrated the relationship between transportation, access to care and unmet health needs in suburban communities. The findings from this research establish how PLWH, and people with multimorbidity, would benefit from improved access to community-based interprofessional health and social care. Additionally, health care delivery could be ameliorated with further sensitivity training to the needs of stigmatized populations. These findings are relevant to policymakers and clinicians.
Co-Author(s): Derek Manis, Brenda Gamble

Community Program Improves Quality of Life and Self-Management in Older Adults with Diabetes and Multimorbidity

Presented by: **Jenny Ploeg**, Professor, School of Nursing; Scientific Director, Aging, Community and Health Research Unit, McMaster University

Older adults with Type 2 diabetes mellitus (T2DM) and multiple chronic conditions are medically complex, and are often excluded from most clinical trials. In this trial, we examined the effectiveness of a 6-month self-management program for community-dwelling older adults with T2DM and comorbidity. This multi-site pragmatic randomized controlled trial (RCT) evaluated the effects of a 6-month interprofessional nurse-led program delivered by Registered Nurses and Registered Dietitians from a Diabetes Education Centre partnered with the YMCA or a community centre. The program was client-driven, tailored, and consisted of in-home visits, monthly group wellness sessions and monthly team conferences. Outcomes included health-related quality of life (physical functioning, mental functioning), depressive symptoms, anxiety, self-efficacy, self-management, and the costs of health service use, from a societal perspective. ANCOVA was used to test group differences in outcome variables and multiple imputation was performed to address missing data. The trial involved 159 older adults from four sites in Ontario and 144 (91%) successfully completed the 6-month follow-up. Half of the participants were female and morbidity burden was high (average of 8 comorbidities). Of the 80 program participants, 77(96%) received at least one home visit and 67 (84%) attended at least one group wellness session. Intention to treat analysis showed differences favoring the intervention for the following outcome (scores): mental functioning (2.68, 0.28 to 5.09, p=0.029), self-management (3.79, 1.02 to 6.56, p=0.008), and depressive symptoms (-1.45, -0.13 to -2.76, p=0.031). Program benefits were achieved at no significant increase in total costs compared to usual community-based care. Participation in a 6-month community-based self management program resulted in improvements in quality of life and self-management behaviour and a reduction in depressive symptoms in older adults with T2DM and multiple comorbid conditions. These benefits were achieved at no additional cost than usual diabetes care.

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Do primary care (PC) provider wait-times and hours of availability predict their patients' use of other PC providers and emergency departments (ED)? Results from the MAAP-NS Study

Presented by: **Emily Gard Marshall**, Associate Professor, Dalhousie Family Medicine

To determine if primary care provider (PCP; family physician and nurse practitioner) wait-times and hours of availability predict their usual patients' use of other PC providers and ED by linking provincial survey data with administrative billing data in Nova Scotia (NS). All NS PCP practices were surveyed by telephone, collecting information on each provider and practice including urgent/non-urgent wait-times (response rate 85%; N=632 family physicians and 43 nurse practitioners). MAAP-NS survey data was linked to administrative billing data of patients (N=842,972); usual provider was assigned, and number of visits to other PCPs and ED were counted for the year matching the survey data collection and previous two years; 17% of patients saw only one PCP, 49% saw 2-4, and 34% saw 6+. Analysis will control for seeing PCPs in co-located practices, and within-year comparisons will reduce confounding of patients changing providers. Usual PCP's urgent wait-times was positively correlated (p < 0.001); while wait-time for routine appointments was negatively correlated, to number of providers seen (p=0.002). Patients who saw multiple PCPs made more ED visits than those who saw one provider (p < 0.001). Patients whose PCPs did not offer after-hours care had more ED visits (p=0.001); greater for those with mental illness (p=0.03). Patients' ED use increased as PCPs wait-times for urgent (p < 0.0001) and routine (p=0.0002) appointments increased. Among chronically ill patients, ED visits increased with urgent and non-urgent appointment wait-times. A type of "threshold effect" where a slight drop in ED use when urgent wait-times increased from 1 to 2-5 days was followed by an increase when the wait extended beyond 5 days, which was greater among chronically ill. As PCP provider wait-times and after hours care are correlated with ED use, particularly among chronically ill patients, it may be useful to explore strategies to reduce wait-times and increase after hours care to see if they lower costs related to use of ED resources, particularly among chronically ill patients.

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Potential Savings from Biosimilars in Canada

Presented by: **Greg McComb**, Senior Economist, National Prescription Drug Utilization Information System (NPDUIS)

A number of biologic drugs, representing 12% of Canadian pharmaceutical sales in 2015, recently began to face, or soon will face, competition from lower-cost biosimilars. This study assesses the potential cost savings based on various assumptions of market uptake and pricing. The drugs considered in the study are Avastin, Enbrel, Eprex, Gonal-F, Herceptin, Humira, Lantus, Neupogen, Remicade, Rituxan, Tysabri, and Xolair. Data from the IMS AG MIDAS™ Database, was used to forecast the Canadian utilization for each drug for three years following the expected biosimilar entry. A number of sensitivity analyses were conducted to evaluate the cost implications of different scenarios of biosimilar pricing and uptake based on Canadian and international observations. The analysis is conducted based on a number of OECD countries . The results are reported for the national market, as well as for public and private drug plans. At a drug level, the savings from biosimilar entry vary depending on the size of the market as well as assumptions of price level and potential market penetration, both of which depend on the policies governing the reimbursement of biosimilars. The findings suggest that the greatest savings could be realized by modeling similar market conditions to those prevailing in Norway and Finland. As biosimilars and originator products are not interchangeable, the market penetration and pricing of biosimilars depends on regulations and reimbursement policies. Understanding the potential savings under different scenarios of uptake and pricing provides valuable insight into the cost impact of various policy levers.

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Trends in recent cannabis use among individuals admitted to in-patient psychiatry in Ontario, Canada from 2006 to 2015
Presented by: **Taylor McGuckin**, Master's Student, University of Waterloo
Cannabis use can interfere with treatment progression in people with mental health illnesses. This study examined trends in cannabis use among individuals in inpatient psychiatry in Ontario, Canada between 2006 and 2015. Demographic, clinical, and health service factors related to use, including concurrent use of other substances, were examined. This study used a retrospective cross-sectional study design to evaluate cannabis use among individuals admitted to inpatient psychiatry in Ontario between January 1, 2006 and December 31, 2015. The study used data from the Resident Assessment Instrument for Mental Health (RAI-MH), an assessment system used in all hospitals providing inpatient psychiatry in Ontario. These data include the types and frequency of use of substances, including cannabis. We examined patterns of cannabis use over time by demographic factors, clinical characteristics including DSM IV diagnoses and psychiatry symptoms, prior health service utilization, and patterns of concurrent substance use. Among the 295,267 individuals admitted to inpatient psychiatry during the study period, 17% (50,125) reported using cannabis within 30 days of admission. There was an increasing trend in the unstandardized prevalence of recent cannabis use over time, from 14.7% in 2006 to 22.6% in 2015. Prevalence of recent cannabis use increased with younger age, among men, and among those with psychotic disorders. Prevalence was lower among mood and anxiety disorders. There was no difference in the prevalence by the number of prior psychiatry admissions. Recent cannabis use was common among individuals reporting use of other substances, particularly cocaine, alcohol, and opiates. This analysis has implications for monitoring and evaluating the effects that impending recreational cannabis policy-reform may have on cannabis use in individuals in inpatient psychiatry. Public health initiatives can be generated to protect vulnerable populations, such as those in inpatient psychiatry, from potential negative implications of increased access to cannabis for non-medicinal purposes.
Co-Author(s): Taylor McGuckin, Christopher Perlman

Preventing Alcohol-Exposed Pregnancies: The Evidence and Experience
Presented by: **Dale McMurchy**, President, Dale McMurchy Consulting
Canadian guidelines recommend pregnant women not drink alcohol. However, 1% of infants develop FASD, costing $10 billion annually. This research supports efforts to increase awareness about the negative effects of prenatal drinking and improve initiatives to support women of childbearing age and women with alcohol-related problems to prevent prenatal drinking. A comprehensive review of the published and grey literature on preventing alcohol-exposed pregnancies and FASD was undertaken. The evidence collected covered drinking patterns, risk and protective factors, and effective interventions related to consumption of alcohol prior to, during and post pregnancy. Evidence was reviewed for quality and relevance, then synthesized and grouped by level of prevention. Additionally, qualitative and quantitative data on awareness and prevention strategies were collected from Ontario health and social service providers. Focus groups and interviews were conducted with key service providers, family physicians and representatives from Indigenous communities; 114 surveys were completed by service providers. About 60% of women in Ontario drank shortly before pregnancy, 9% during pregnancy. Various profiles identified higher risk for alcohol-exposed pregnancies, including low socioeconomic status, prior drinking patterns, older age, Canadian-born, and higher income and education. Broad-based prevention can raise awareness about the risks of prenatal drinking and FASD, but this approach is most effective in groups at lowest risk, and does not necessarily translate into reduced drinking. Educating healthcare providers and brief interventions with women are relatively more effective. In Ontario, there are few direct preconception interventions and some women get mixed messages about risks from their providers. Screening, counselling and referral to specialized treatment can be effective. Specialized support for women with alcohol-related problems must be accessible and multi-faceted to be successful. All women of childbearing age should receive information about the risks associated with alcohol use in pregnancy and, those who need it, further interventions. Prevention requires cross-sectoral integration and coordination across all levels of FASD prevention – from preconception through prenatal care and postpartum – and within overall alcohol reduction.
Co-Author(s): Dale McMurchy, Robert Palmer

Lessons from the field: A province-wide implementation of the WatLX™, a patient experience instrument for rehabilitative care
Presented by: **Josephine McMurray**, Assistant Professor, Wilfrid Laurier University
Researchers have worked with providers, patients, and decision makers to develop a valid and reliable instrument that measures rehabilitative care patients' experience across the care continuum. We report on the implementation of the province-wide pilot of WatLX™, a patient experience evaluation tool for rehabilitative care. Following a systematic review, a parsimonious measure named the WatLX™ was created and evaluated for content and face validity. Cognitive interviewing (Willis, 2015) tested usability, and feasibility and reliability testing was conducted in three ambulatory care settings in southwestern Ontario; the process of developing that instrument is available in two papers published in the Archives of Physical Medicine and Rehabilitation (McMurray et al., 2015a, 2015b). The WatLX™ was used for a provincial proof of concept study at multiple ambulatory rehabilitative care sites (n=24) involving a broadly representative sample of patients (n=968) by age, gender and primary condition. This provincial pilot study used the WatLX™ tool to gather patient experience data from participants receiving rehabilitative care in a variety of ambulatory care settings. The results of the study suggest that the WatLX™ is both valid and reliable. The characteristics of the patient, condition for which they were receiving care, and grouping by age, gender, and care setting required adjustments to the WatLX™ survey administration and data collection protocol, however its implementation minimally impacted workflow. Feasibility, as measured by item completion rate, was high. Use of training webinars, the development of a relationship between stakeholders involved in the pilot, clear communication, and a provincial culture in healthcare of a greater focus on the patient experience helped to ensure the success of the pilot study, Reliable instruments ensure accurate measurement of phenomena, however complementary elements such as effective protocols, and staff training were found to be crucial to the success of this multi-site study. Future research will examine the digitization of the survey to address resource constraints, and data entry challenges.
Co-Author(s): Josephine McMurray, Heather McNeil, Jacobi Elliott, Alicia Gordon, Rebecca Ho, Charissa Levy, Paul Stolee

Evaluation of a Health and Fitness App (Addo) in Workplaces in Nova Scotia

Presented by: **Kaleigh Meisner**, Graduate Student , University Of New Brunswick

The aims of this study are to evaluate a health promoting mobile app (Addo - developed in Nova Scotia) regarding its implementation and impact on promoting health behaviour changes and management of individual health in workplace settings in Nova Scotia. Participants were recruited using word-of-mouth strategies in workplaces throughout the Halifax Regional Municipality and through social media tools such as Linked In and Facebook. Both treatment (n=51) and control groups (n=51) were assessed through a longitudinal and mixed-methods design following the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) model. Data were collected through quantitative surveys (pre-, post- and 3 months post-use) and qualitative interviews. Results indicate that the implementation of Addo was low in the treatment group. Using validated and standardized survey tools (General Self-Efficacy and RAND-SF-36), the majority of both treatment and contorl group participants scored 'excellent/very good' at baseline (77%) and 3-months post-use (79%). Addo showed no impact on behavior change and interview feedback on the app was generally negative. The low levels of usage and overall implementation of the app, combined with participants self-reported measured of healthy behaviours may indicate a lack of need for this population. The lack of impact and negative perceptions about the app may have influenced the developer to discontinue the app, which occurred near the end of the evaluation. Results from this evaluation indicate low use and no impact, however, in populations where need is greater or where apps are more motivating, a more positive outcome is possible. As the app market for health promotion continues to grow, it is important that evidence-based evaluation inform their development and use.

Co-Author(s): Kaleigh Meisner

Strategies for engaging service users and families in collaborative mental health care: a systematic review

Presented by: **Matthew Menear**, Postdoctoral Fellow, Laval University

Service users and families are often considered important partners in collaborative mental health care (CMHC) teams. This study aimed to identify and describe the range of strategies used to engage service users and families affected by depression or anxiety disorders in primary care-based CMHC programs. We performed an update of a 2012 Cochrane systematic review on CMHC programs for depression or anxiety disorders and then descriptively analyzed the service user and family engagement strategies featured within all programs (update and 2012 review). The search was performed in Cochrane CCDAN (2011 to present) and CINAHL (2009 to present) databases and three clinical trials registers. An exhaustive list of search terms related to depression, anxiety disorders, and collaborative care was used. Articles were eligible if they described RCTs or clinical controlled trials of CMHC programs meeting the same eligibility criteria used in the 2012 Cochrane review. The systematic review update yielded 4643 unique citations. A first screening of titles and abstracts by five review authors led to the exclusion of 4339 articles, leaving 304 citations. Two review authors independently read the full-texts of these articles, leading to the inclusion of 69 publications describing 55 CMHC programs. These programs were added to the 79 CMHC programs identified by the 2012 Cochrane review (total = 134 programs). Extraction of data on these programs is ongoing and focuses on the following engagement strategies: psychoeducation, self-management, care planning, shared decision-making, motivational enhancements, access to service user medical records, peer supports, family supports, navigation services, consultation and needs assessments, involvement in quality assessment and improvement, and involvement in service planning and governance. Improving access to evidence-based mental health services is a shared priority for governments, care providers, researchers and service users. The findings of this systematic review will provide valuable information about the range of strategies that can be used to support the delivery of more person- and family-oriented CMHC.

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Cross-case analysis of coaching support provided to teams implementing innovations in primary care: recommendations and lessons learned from a Quebec based network

Presented by: **Shandi Miller**, Director of operations, "Réseau-1 Québec" (Quebec SPOR Network in Primary and Integrated Health Care Innovations)

Every year, Réseau-1 Québec (R1Q, the Quebec-based SPOR network in primary care) funds four practice-based research projects led by researcher-clinician teams looking to implement innovations in primary care. This presentation shares the recommendations emerging from a cross-case analysis of coaching support provided to teams, designed to ensure success in innovation implementation. Inspired by an Institute for Healthcare Improvement white paper on organizational strategies to achieve system level changes, Réseau-1 Québec's Oversight and Learning Committee offers structured coaching to teams in the areas of knowledge translation, patient engagement, organizational change and project management. Based on an in-depth literature review and semi-structured interviews with teams, we make recommendations to improve the coaching process. To improve the impact of the coaching process and increase the likelihood of successful implementation of innovations, the following recommendations are made : Before projects are implemented, teams should have access to key tools and get training in essential strategies (change management, governance, leadership, performance management and project management); The coaching process should be tailored to meet the individual needs of each project; Teams should be followed and supported throughout the implementation of their projects and at set points in time; Projects selected should be at similar stages of the innovation cycle (i.e. innovation, adoption or diffusion). This cross-case analysis demonstrates the challenges and complexity of providing coaching support to teams implementing innovations in primary care. R1Q is committed to learning and improving on the process and has already adapted its approach for subsequent cohorts by providing timely, individualized support.

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Supporting health provider practice changes to embed HealthChange® Methodology within a team environment.
Presented by: **Mary Modayil**, Scientist, Alberta Health Services
HealthChange® Methodology (HCM) focuses on a patient's readiness to make health changes by promoting shared decision-making, health literacy, behaviour change and self-management support. We wanted to strengthen our understanding of the implementation supports required to embed HealthChange(R) Methodology into team and clinic processes. The Alberta Health Services Primary Health Care program collaborated with the East Calgary Family Care Clinic. Using a combination of qualitative approaches (key informant interviews, focus groups with clinic staff) and quantitative approaches (skills audits, patient experience surveys), we wanted to look at changes taking place at three levels: patient level, provider level and clinic level. Preliminary results from the focus groups show that adoption of the HCM language and use of select HCM practice principles is evident at an early stage of implementation. FCC providers started incorporating HCM language after participating in HCM training, such as including 'above/below-the-line', 'check RICk', and 'address barriers' into the regular charting and interdisciplinary communications. Six months after the HCM training took place, 76.3% of patients reported that their clinic team asked them what might get in the way of patients looking after their own health concerns; this compared to 57.4% before training. Post-training, patients also reported that providers were more likely to talk to them about what could happen to their health if their concerns were not looked after (75.0% post- versus 61.1% pre-training). In contrast to what we expected, we learned that a staged approach may be needed to best support clinic teams with the implementation of the HCM. Early stages should focus on the adoption of a common language and using HCM practice principles.
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Developing a Framework for Primary Health Care Research in Alberta
Presented by: **Stephanie Montesanti**, Assistant Professor, School of Public Health, University of Alberta
Despite significant investments to improve primary health care (PHC) delivery in Canada, provincial health systems remain fragmented and uncoordinated. Canada's commitment to strengthening PHC should be driven by robust research and evaluation that reflects our health policy priorities and responds to the needs of the population. A scoping review of the literature and expert interviews in Alberta were conducted to examine PHC research priorities in Canada. We mapped national research priorities in PHC to research priorities being considered in the province of Alberta. Our scoping review and expert interviews were guided by the following questions: (1) What are the research priorities for PHC in Canada (or Alberta); (2) What process is used to identify PHC research priorities?; and (3) What frameworks exist for PHC research priorities in Canada (or Alberta)? Six key theme areas for consideration in setting a PHC research agenda were identified: research in practice, research on practice, research about practice, methods, infrastructure, and the intersection of PHC and population/public health. These thematic areas provide a new framework for guiding PHC research in Alberta that were found to generate best practices and new knowledge (e.g., innovation), transform PHC clinical practice or support quality improvement (e.g., spread of ideas), and lead to large-scale health system transformation (e.g., scale-up innovations). Our findings also suggest that a common research priority framework for PHC research in Alberta would ensure that research priority-setting exercises are grounded in an evidence-based process. Setting PHC research priorities ensures that research is funded that has the greatest potential population health benefit, that research funding and outputs are aligned with the needs of practitioners and decision makers, and that there is efficient and equitable use of limited resources, with less duplication of research effort.
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Evidence of improving EMR data quality in primary care teams
Presented by: **carol mulder**, Provincial Lead, Quality Improvement and Decision Support , Assoc of Family Health Teams of Ontario
Investment in primary care EMRs was intended to improve quality of care. Barriers to realizing this potential are real and perceived issues of Data Quality (DQ). This study describes the impact of efforts to improve EMR DQ in primary care teams. The interventions implemented by AFHTO to support improvements in EMR DQ among primary care teams were Incorporate EMR-data-based indicators in a performance measurement report Incorporate quantitative measure of EMR DQ in same report Develop consensus-based consistent searches to extract and compile EMR data for the above indicators Develop standardized, tested searches to identify patients with specific chronic diseases Impact was estimated by the nature and extent of primary care team participation in the relevant searches/data extractions, scores on the measures (where relevant) and extent of uptake by/interest from external stakeholders. All measures are relative to the time of introduction of each particular feature EMR-based measures: 3 indicators (vs 2) of 12 with 125% more teams contributing data EMR DQ: 14% higher quality and 26% more teams contributing data. Scope expanded from 1 to 5 components. More conversations and initiatives to improve EMR DQ. Consistent EMR searches: 40% (vs 20%) teams using searches. Increased support from EMR vendors. Standardized, tested EMR queries: Consistent queries to identify patients with COPD, Diabetes, CHF and Depression developed in multiple EMRs (Predictive value:62 to 85%). Uptake is 59 providers. Incorporating query results into administrative and clinical workflow is challenging. Nevertheless, queries being considered in development of OntarioMD's EMR dashboard specification and used by disease-condition-specific organizations to facilitate recruitment for their interventions. Quality and capacity to extract useful EMR data are increasing. Use of EMR data in patient management, quality improvement and performance monitoring is increasing, suggesting increased confidence in EMR data. Next steps include expanding scope of EMR DQ indicator and supporting workflow and clinical action based on standardized EMR queries.
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Who's voice are we hearing? The Equity in Engagement Project

Presented by: **Brett Nicholls**, Lead, Cancer Care Ontario

CCO's mandate is to build a system that is responsive to the needs of Ontarians. These needs reflect a person's unique characteristics like age, cultural background, socioeconomic status, and education. To examine the current engagement model and identify gaps in representation among our advisors, the Advisor Health Equity Survey was developed. Development of the Advisor Health Equity Survey was a 4-step process. First, existing questionnaires were gathered to identify relevant health equity tools and measures. Second, using the Health Equity Impact Assessment (HEIA), social determinants of health and characteristics of interest were identified then extracted from the questionnaires. Thirdly, CCO Public, Patient and Family Advisors (PFAs), in addition to CCO patient, family and public engagement experts reviewed the Advisor Health Equity Survey and provided feedback on the survey draft, in order to inform the final set of questions and instruction wording. Finally, the survey was administered to the CCO Advisor Community. Five questionnaires were identified. Using the HEIA, social determinants deemed relevant to include in the survey include: Aboriginal identity, age, ability, ethno-racial identity, immigration, language, housing, income, education, employment, religion/faith, sex/gender, sexual orientation, and food security. Questions aligned to the social determinants were extracted from these tools: 1) Black, African, and Caribbean Canadian Health Study questionnaire (n=5); 2) 2014 version of the Canadian Community Health Survey (n=3); 3) African and Caribbean Track questionnaire (n=1); 4) Toronto Central Local Health Integration Network questionnaire on health equity (n=4); and 5) CCO existing Expression of Interest Form (n=5). After feedback, review and approval, the Advisor Health Equity Survey includes 18-questions that were administered to the CCO Advisor community (n=51). Recruiting a diverse group of Advisors at CCO, who each have unique backgrounds and different experiences with the Ontario healthcare system, will ensure that the voices and perspectives from a representative sample of Ontario's population is captured. This fosters understanding of the full public, patient and family experience in Ontario.

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CIHR Community-Based Primary Health Care Signature Initiative: An Innovative Cross-Team Model of Building Research Capacity for Early Career Researchers

Presented by: **Kathryn Nicholson**, Doctoral Candidate, Western University

In 2012, CIHR launched the Community-Based Primary Health Care (CBPHC) Signature Initiative selecting 12 Teams from across Canada to conduct multidisciplinary, cross-jurisdictional research. These Teams also aimed to build research capacity. As such, a trainee-led Cross-Teams Capacity Building Working Group (CTCBWG) was formed that supports a national network of trainees. Each of the 12 CBPHC Teams is composed of senior researchers, international collaborators, early career researchers and trainees (undergraduate, professional, graduate and post-doctoral). The CTCBWG includes over 100 multidisciplinary trainees from 11 of the 12 CBPHC Teams. The Working Group's goal is to enhance trainee involvement within and across Teams by creating training and mentorship opportunities, in partnership with senior researchers. To achieve this goal, an Events Committee and Mentorship Committee have been established. To date, the Working Group has facilitated a number of in-person and online educational and networking events that address the needs and interests of the trainees. Following an initial needs assessment circulated to all trainees, the CTCBWG established a structure to ensure that activities align with the needs and interests identified through the survey. These structures have included the organization of capacity-building webinars, virtual coffee breaks and the development of an online community. The capacity building webinars and virtual coffee breaks offer online platforms for participants to present their research and discuss relevant topics in research or career development. Content discussed amongst trainees has included topics of measurement, multimorbidity, patient-centred care, Aboriginal health, participatory research and caregiver burden of complex patients. Future capacity building efforts will focus on expanding the CBPHC network of multidisciplinary trainees, engaging members through online and in-person events and facilitating mentorship opportunities between trainees and senior researchers. The CTCBWG has successfully and actively engaged trainees and early career researchers through tailored capacity building opportunities, broad networking and mentorship activities. These are critical to building research capacity amongst a cadre of multidisciplinary primary health care researchers who will work to address the dynamic, evolving health needs of Canadians.

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Structural conditions and health system capacity to address the HIV/AIDS epidemic in six US cities

Presented by: **Michelle Olding**, Project Coordinator, BC Centre for Excellence in HIV/AIDS

The HIV epidemic in the United States is a diverse set of microepidemics dispersed primarily across large urban centers, with different underlying epidemiological and structural conditions. Here we describe the distribution, demographics, and needs of people living with HIV (PLHIV) to enable stakeholders to optimally allocate their resources. We focused our analysis on six of the largest cities (Miami, FL; Atlanta, GA; Baltimore, MD; New York, NY; Los Angeles, CA; and Seattle, WA), accounting for approximately 25% of PLHIV in the US. We synthesized publicly-available surveillance, legal statutes, entitlement and discretionary funding, and service location data for each city for the study period 2008-2014. We reported differences in underlying HIV and injection drug use epidemics, relevant state legislature, funding, and public infrastructure; and compared strategies used within each jurisdiction to strengthen local HIV care systems. We summarized our findings with actionable items to improve stakeholders' service provision. The proportion of PLHIV in care was low (43.0-75.6%); black/African Americans, and men who have sex with men (MSM) were disproportionately burdened by HIV. New York had the fewest HIV-specific statutes while Miami, Atlanta, and Seattle had the most. Medicare and Medicaid accounted for the majority of funding for treatment and care. Eligibility criteria for discretionary funding varied by state. Each city demonstrated successful strategies to mitigate the effects of funding or service shortages on HIV treatment and care. We recommend improvements in surveillance, decriminalization of HIV and preventive services, harmonization of public funding eligibility, and the targeting of finite resources to improve health systems' efficiency and the health outcomes of PLHIV. Following the 2016 election outcomes, changes to the funding and provision of insurance for HIV treatment and prevention programs may derail and reverse recent progress. With solutions at hand, reduced healthcare coverage and funding for public health interventions would magnify the public health and economic burden for future generations.

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A historical timeline of HIV prevention and care initiatives in British Columbia, Canada: 1996-2015

Presented by: **Michelle Olding**, Project Coordinator, BC Centre for Excellence in HIV/AIDS

Since 1996, British Columbia (BC) has made significant progress in the treatment and prevention of HIV. This study delineates the biomedical, community-level, health service and structural initiatives implemented in BC from 1996-2015 to improve the quality and reach of HIV prevention and care for people living with HIV.   We constructed a historical timeline of HIV-related initiatives implemented in BC between 1996 and 2015 by reviewing publicly-available reports, guidelines and other documents from provincial health agencies, community organizations and AIDS service organizations; conducting directed searches of the peer-reviewed literature; and administering a structured data collection form to representatives of an AIDS service organization umbrella organization and BC's five regional health authorities. Using linked population-level health administrative data from the STOP HIV/AIDS cohort, we identified key phases of the HIV epidemic in British Columbia, as characterized by distinct changes in HIV incidence, antiretroviral therapy (ART) uptake and the provincial HIV response. In total, we identified 175 HIV prevention and care interventions implemented in BC from 1996-2015. We identified and described four phases in BC's response to HIV/AIDS: the early Highly Active Antiretroviral Therapy (HAART) phase (1996-1999); the harm reduction and health service scale-up phase (2000-2005); the early Treatment as Prevention (TasP) phase (2006-2009); and the STOP HIV/AIDS phase (2010-present). Sustained declines in HIV incidence and growth in HIV care engagement have been enabled by structural factors unique to BC, including centralized distribution of fully subsidized ART to PLHIV, widespread adoption of harm reduction approaches, and provincial investment since 2009 in a "Treatment as Prevention" (TasP) approach that emphasizes routine HIV testing and early initiation of ART to prevent onward transmission of HIV. Summarizing prevention and care interventions into a single timeline provides local, national and international scientific and health administrative communities with valuable insight into BC's HIV response and may serve as a basis to evaluate the causal impact of initiatives in future studies.

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ALBERTA FAMILY PHYSICIAN ELECTRONIC ENDOSCOPY STUDY (AFPEE) FINAL RESULTS

Presented by: **Nicole Olivier**, Clinical Study Coordinator, University of Alberta

Electronically record colonoscopy data from colonoscopies performed by Alberta Family Physicians to measure and compare to existing quality benchmarks. Some studies demonstrate that appropriately trained Family Physicians perform high quality endoscopic exams with high patient satisfaction, while other studies conclude that non-gastroenterologists perform lower quality colonoscopies. Multi-centre prospective cohort study of nine Alberta Family Physicians performing colonoscopies in 11 rural Alberta sites over a 6 month period. Collect data using a REDCapTM - based electronic data collection tool. Create data collection tool with stakeholder input from both physician and nurse teams to ensure it meets end-user needs without adversely impacting patient procedures or data collected. Alberta Family Physicians performing colonoscopies collect data in real-time, using quality variables with corresponding pathology entered directly via study iPadsTM. Provide individualized summary report cards to each physician with their own data for their reflection. Physicians and their teams are willing to participate in live data collection for research and reporting. Participating Family Physician colonoscopists collected data on 1769 procedures, making this the largest multi-centre study examining the quality of colonoscopies performed by Family Physicians in Canada. All important benchmarks (i.e. proportion of successful cecal intubations, proportion with ? 1 adenoma, patient comfort, successful bowel preparations and complications) were achieved by the group. Results of FIT positive cases will be presented (analysis in progress). Overall, Family Physician perform high quality colonoscopies, collectively meeting important quality benchmarks. Electronic, real-time data collection facilitates reporting back to the practitioner, providing an opportunity for self-reflection and improvement of patient outcomes. In today's climate of health care measurement, this tool could be expanded for provincial data collection, for credentialing of learners, accreditation of hospital programs and expanded to other procedures.

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Pragmatic Trials Collaborative – Measuring What Matters

Presented by: **Nicole Olivier**, Clinical Study Coordinator, University of Alberta

Optimize the use of existing therapeutics in representative "real-world" populations by addressing clinical questions meaningful to care providers, patients and decision makers within primary care practice. Create a primary care-based platform, Pragmatic Trials Collaborative (PTC), and conduct pragmatic clinical trials designed to fit research into practice with minimal workflow disruption.   Begin by building relationships with primary care providers interested in our pragmatic trial approach to primary care research. Conduct a pilot study, the "INRange RCT", to set up and refine the infrastructure and processes that will form the foundation for how this network engages in research. Track and measure these processes and use this information to inform ourselves of the needs associated with primary care research and how to fit research into practice. Further expand and refine these processes and continue building on these foundational relationships to successfully acquire funding to conduct a large primary care-based randomized controlled trial. The PTC has grown to over 460 providers including physicians, medical residents, nurses, and pharmacists in BC, Alberta, Manitoba, Ontario, Nova Scotia and NWT. During the "INRange RCT", for each participating provider another 1.58 providers joined the study. INRange had 248 providers from 53 Alberta and BC communities. Feedback indicated that providers learned more about the studied condition and used the information to refine their own clinic processes surrounding this patient population. Primary care providers are clearly interested in participating in research. Facilitating their engagement with minimal workflow impact that uses patient-oriented outcomes will ensure continued participation. Our next phase includes the BedMed Initiative, a pragmatic clinical trial evaluating the timing of antihypertensive medication in adults with hypertension, which will launch in January 2017.   Primary care research can play a significant role in answering questions meaningful to care providers, patients, and decision makers. By collaborating and utilizing relevant patient oriented outcomes, Pragmatic Trials Collaborative can conduct influential trials with minimal impact on primary care workflow while optimizing care for primary care patients.

Co-Author(s): Nicole Olivier, Scott Garrison

Measurement and Collaboration to inform progress on Choosing Wisely Canada Recommendations
Presented by: **Michelle Parker**, Program Lead, Health Reports, Canadian Institute for Health Information
Choosing Wisely Canada (CWC) is a grassroots initiative that encourages physicians and patients to reduce low value tests and procedures. Using administrative data and working with a coalition of partners, we set out to measure the magnitude of unnecessary care and detail improvement initiatives of partner organizations. Our analyses of eight CWC recommendations uses administrative data from acute care hospitalizations, emergency departments, physician billing data, drug use and community health data. Provinces, regions and years included vary by recommendation based on data availability. In order to set data within the context of action, we lead a measurement collaborative and partnered with organizations across Canada. Through stakeholder engagement, we were able to profile innovative initiatives, approaches and process changes that are being implemented across the country. Collaborating on measurement will support evaluation while supporting peer learning through success stories will foster faster adoption. We analyzed eight CWC recommendations spanning the healthcare continuum and found that 5% to 30% of tests and procedures covered by these eight recommendations are potentially unnecessary. Across all recommendations variation in rates across jurisdictions, regions and facilities were observed, suggesting there are opportunities for improvement. The results of our analysis will serve as a baseline for monitoring improvements of adherence to CWC recommendations. Partnering with leading organizations across the country allowed for a discourse over methodology through our measurement collaborative and highlighting the best approaches being taken at facility, region and provincial levels. The process for engagement in this large, multi-faceted project has faced challenges yet been successful– we intend to discuss our leadership role to set a baseline for CWC work across the country from profiling initiatives to our pan-Canadian findings. We will continue to support CWC and its sustainable, system-wide improvements.
Co-Author(s): Michelle Parker, Geoff Paltser

Computer Based Training for Cognitive Behavioral Therapy (CBT4CBT); an innovative new substance abuse therapy for Canada
Presented by: **Michelle Patterson**, Research Manager, Centre for Health and Biotech Management Research
The pilot program aims to determine the effectiveness and efficacy of a computer-based treatment option for addiction therapy within specific rural Canadian populations.Introductory trials conducted among urban populations in the US have demonstrated CBT4CBT's effectiveness in providing a meaningful treatment option at moderately low cost and with lasting effects. This trial utilizes a similar methodological approach as the trials performed in urban communities of the United States, with participants at each trial site being randomly assigned to one of two groups, both including 'treatment as usual' (standard counseling) but with one group additionally having access to the CBT4CBT tool. This simple 'add-on' design has been shown to be effective at determining the extent to which CBT4CBT confers specific benefits over current standard practices. Using Prince Edward Island as a gateway, CBT4CBT is currently being implemented and evaluated in sub-populations of high-need individuals as part of a CIHR funded pilot and will subsequently be rolled out across Canada. CBT4CBT is offered at trial sites in PEI and New Brunswick which have been selected as representative of high-needs populations who may benefit from improved addiction treatment options and support. The trial populations include First Nations, youth (age 18-24), post-secondary students, individuals maintained on methadone, and individuals transitioning out of inpatient facilities. Preliminary results from each of these populations will be discussed. A larger-scale implementation of CBT4CBT across Canada will offer an innovative and in-demand therapeutic option for individuals struggling with substance abuse. A roll-out plan for the implementation of CBT4CBT across Canada is under development, and a list of priority revisions and enhancements for future iterations the program is being established.
Co-Author(s): Michelle Patterson, Lukas Marriott, Kathleen Carroll, Juergen Krause

Using 'Realist' reviews to inform decision-making: Challenges and opportunities
Presented by: **Mark Pearson**, Senior Research Fellow, University of Exeter Medical School
1.To introduce the 'Realist Review' approach to systematic review 2.To illustrate, using examples, the different forms that Realist Review can take and how these did (or didn't) inform decision-making 3.Using Glasgow's 'Evidence Integration Triangle', to reflect critically on the strengths and weaknesses of Realist Review for informing decision-making Realist reviews, a form of systematic review, endeavour to integrate different types of evidence (quantitative, qualitative, theoretical, experiential) in a way that produces actionable knowledge. These reviews typically address explanatory ('why?') questions, such as 'Why do behaviour change interventions to change antimicrobial prescribing behaviour work in some contexts but not others?'. The findings of these reviews can be complex, with significant variation in the extent to which they are considered 'usable' by decision-makers. The strengths and weaknesses of example Realist reviews for informing decision-making will be analysed using the components of Glasgow's 'Evidence Integration Triangle' (findings, measures, and participatory processes). Realist reviews are flexible and can be used to answer different types of explanatory questions – accordingly the reviews may be conceptual or applied (typically in-depth or rapid, respectively). The integrative approach of Realist reviews open up opportunities for engagement with stakeholders throughout the review process, from question identification and refinement, to collaborative analysis and translation of findings. However, the extent to which the knowledge produced is actionable by decision-makers is mixed. The analysis of the example Realist reviews here suggests that whilst Realist reviews may use participatory processes, this is necessary but not sufficient to produce findings actionable by decision-makers. Research is required to develop understanding of how the complex findings of Realist reviews can be: presented to decision-makers in a concise, comprehensible and meaningful way made 'actionable' through explicit linkage to organisational processes and measures Current research into Integrated Knowledge Translation may provide an important framework for such research.
Co-Author(s): Mark Pearson

A Review of Cardiac Rehabilitation Delivery Around the World

Presented by: **Ella Pesah**, Master's Student, York U

Cardiac rehabilitation (CR) effectively mitigates cardiovascular disease, which is the leading cause of death globally. However, little is known about CR delivery around the world. The objective of this study was to review publications describing CR delivery on a national or regional level to characterize the nature of services. Literature was identified through: (a) searching PubMed and Google Scholar electronic databases from database inception to December 2016, (b) hand-searching reference lists of identified citations and global CR reviews, and (c) consulting experts in the field. Inclusion criteria consisted of articles reporting results of surveys assessing delivery and/or components of phase II CR programs on a national or regional level. Non-English papers and abstracts were excluded. Data were extracted in tabular format and qualitatively synthesized. Twenty-seven articles were identified, reporting on CR delivery in 57 countries, or 47.5% of the 120 countries known to offer CR. Most of the countries were high-income (n=37), with others all middle-income (n=20). Government funding was the main source of CR reimbursement in most studies (n=41). CR programs reported most frequently treating patients following myocardial infarction and revascularization. Results revealed wide variability in program duration, ranging from 6-22 weeks. CR teams were most often composed of nurses, cardiologists and physiotherapists. Similarities were observed regarding components offered, namely physical activity, patient education and nutrition counseling. A low proportion of programs across countries offered alternative delivery models, such as home-based services. Lack of human and/or financial resources were reported as the major barriers to broader CR delivery. CR delivery has been characterized in only half of the countries where it is offered. The nature of services delivered is fairly consistent with major CR guidelines and statements, except with regard to dose. However major barriers to delivery remain.

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Development of Quality Indicators for Evaluation of the Telehomecare Program for Patients with Heart Failure

Presented by: **Yelena Petrosyan**, PhD candidate, University of Toronto

1) to extract and develop a list of candidate indicators from current literature to evaluate the Telehomecare program for patients with heart failure (HF); 2) using Delphi approach, to critically appraise and select an appropriate set of quality indicators for evaluation of the Telehomecare program for patients with HF. A systematic review of the literature was conducted to develop quality indicators for evaluation of Telehomecare programs for patients with HF. The identified list of candidate indicators was then submitted to two independent expert panels for methodological assessment using a Delphi technique: 1) a patient panel which included HF patients who participated in the Telehomecare program; and 2) a provider panel which included Telehomecare nurses, decision-makers, coordinators and administrators, and primary care physicians and cardiologists. A 73% agreement threshold was required for 'high consensus', and 60-72% for 'moderate consensus' as measured on a 5-point Likert type scale. A list of 60 candidate indicators was developed from the literature review. These indicators were then critically appraised using a 2-stage Delphi study. The provider panel appraised 60 indicators, and the patient panel 32 indicators. The final list included 46 quality indicators for evaluation of the Telehomecare program for patients with HF, including 23 indicators related to 'clinical aspects', 9 to 'patient monitoring', 3 to 'technical aspects', 4 to 'economic aspects', 5 to 'organizational aspects', and 2 to 'social aspects'. The provider panel reached consensus on inclusion of 43 out of 60 indicators and patient panel of 21 out of 32 indicators in the final list. There were 10 indicators which were selected by one of the panels, but not by the other. The developed set of quality indicators will allow Telehomecare health providers to initiate local quality improvement initiatives, managers and coordinators to identify and correct system-wide problems, and policy makers to plan new strategies for future programs of care for patients with HF.

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Impact of Telehomecare on Patients' Quality of Life and Disease-Management Skills

Presented by: **Valeria Rac**, Assistant Professor, IHPME; University of Toronto

This abstract reports on the impact of Telehomecare on quality of life, disease-management skills and satisfaction among heart failure (HF) and chronic obstructive pulmonary disease (COPD) patients in Ontario. From June to August 2014, 57 patient longitudinal surveys (EQ-5D, SF-12, Stanford Self-Efficacy Scale-33, CSQ-8, TMPQ-17) were administered at baseline, months 1, 2, 3 after patient enrolment in the Telehomecare. Responses were analyzed using general linear mixed model in SAS. Overall, patients reported high levels of satisfaction and positive perception of the Telehomecare. Quality of life scores varied between baseline to month 3: average unadjusted physical component summary (PCS) of SF-12 survey (HF patients: 33.3-34.9 and COPD patients: 28.0-31.1); mental component summary (MCS) score (HF patients: 48.2-51.9 and COPD patients: 45.3-48.8); EQ-5D index score (HF patients: 0.70 - 0.78 and COPD patients: 0.60-0.67 within baseline to month-3). After adjusting for age and gender, quality of life did not change significantly over time. Following age and gender adjustments, no differences in self-management scores were found across conditions, except in the symptom and shortness of breath management domains, which was better for HF patients (+1.10, p = 0.053 and +1.68 p = 0.007). None of patient self-management Results suggest patient acceptance of the Telehomecare. Analysis did not detect significant impact of Telehomecare on the patient quality of life and disease management skills.

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A Systematic Review of Economic Evaluations of eHealth Technologies

Presented by: **Chiranjeev Sanyal**, Post-doctoral Fellow, University of Waterloo

The objective of this study was to perform a systematic review of economic evaluations of eHealth technologies in study populations comprising older adults. We searched multiple databases (MEDLINE, EMBASE, Cochrane Library, CINAHL, and PsycINFO) for peer-reviewed studies in English that examined cost-effectiveness of eHealth technologies. Two reviewers independently screened the literature, abstracted data from full-text articles, and assessed methodological quality using the Drummond ten item methodological quality tool. Twelve studies were included in the review. eHealth technologies evaluated by these studies includes computerized decision support systems, a web-based physical activity interventions, internet-delivered cognitive behavioral therapy, telecare, and telehealth. While clinical trials have provided some evidence of efficacy of these interventions, our quality assessment found limited information on their implementation, feasibility, and health system adoption. This review identified growing number of eHealth economic evaluations in the management of chronic diseases. The quality of the current evidence is limited and well-designed studies are required to determine the longer-term cost-effectiveness of eHealth technologies in older adults from the health care system and societal perspectives.

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Understanding the Experiences of East African Immigrant Women with Gestational Diabetes Mellitus

Presented by: **Fartoon Siad**, Fartoon Siad, MSc, The University of Calgary

East African (EA) women are a sub-population that are at high-risk of gestational diabetes mellitus (GDM) and poor obstetrical outcomes. With little known about the care experiences of this under-studied group, this study aimed to document the impact of a GDM diagnosis and perceptions of care among EA immigrant women. Semi-structured in-depth interviews were conducted with 10 EA women diagnosed with GDM in Calgary recruited from community and tertiary care settings. Interviews were transcribed verbatim and analyzed using inductive thematic content analysis to explore participants' experiences accessing and receiving care. EA immigrant women had varied GDM experiences. Thematic analysis revealed the negative impact of GDM diagnoses on women which included the burden of self-care, fear, community influences, cultural and financial barriers. Positive impacts of diagnoses experience primarily noted through empowerment to make healthy behaviour changes. Women desired more context-specific and culturally-appropriate support and care. Diagnoses of GDM extended beyond the individuals affected, impacting families culturally, psychologically, and financially. Addressing the emergent themes during pregnancy is imperative to improving care providers' engagement of EA women in postpartum diabetes screening activities and beyond. Study findings contain elements transferable to immigrant groups with a similar social-ecological context.

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Barriers to Cervical Cancer Screening Faced by South Asian Muslim Immigrant Women in Calgary: A Qualitative Study

Presented by: **Kinza Rizvi** , Evaluation/Qualitative Researcher, University of Calgary/IHE

South Asian immigrant women are less likely to participate in cervical cancer screening compared to other immigrants and non-immigrants. Many of this sub-population are Muslims. Understanding their ideas and needs may enable development of programs and services so they can benefit from screening and reduce the effects of cervical cancer. We interviewed a sample of South Asian Muslim immigrant women in Calgary to identify the barriers that prevent them from having a Papanicolaou test. Snowball sampling was used to recruit South Asian Muslim immigrant women in Calgary who had not been screened or infrequently screened for cervical cancer. We conducted qualitative, semi-structured in-depth interviews. Data were analyzed using thematic analysis. Eighteen women were interviewed: the majority (66%) had never had a Pap test. Barriers to cervical screening were divided into three categories: healthcare provider, healthcare system and personal barriers. Provider and system barriers included: lack of communication by healthcare providers, limited access to female physicians, miscommunication by healthcare system, and transport. Personal barriers included: lack of knowledge about cervical cancer and screening, views and beliefs about cervical screening, including previous painful Pap tests, role of family and language. Strategies are needed at the system and provider level to promote cervical cancer screening. More skilled female physicians, increasing knowledge about cervical screening, providing resources such as transport, and screening reminders that explain the disease and procedure in detail could potentially increase screening practices among South Asian Muslim immigrant women.

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Nurse staffing policies and patient outcomes in long term care and nursing homes: a literature review

Presented by: **Christian Rochefort**, Professor / Researcher, University of Sherbrooke

There is mounting evidence suggesting that nurse staffing policies in long term care (LTC) and nursing home settings may be associated with patient mortality and the occurrence of adverse events. The purpose of this study was to summarize existing evidence and identify avenues for further research and policy development. A systematic review of the literature was conducted in Pubmed. Relevant studies, published between January 2000 and December 2016, were identified by combining selected keywords (e.g., nurse staffing, patient outcomes, long term care). To be included, these studies needed to: a) report on the association between at least one nurse staffing policy and a patient outcome in a LTC or nursing home setting or; b) summarize existing evidence for such associations. The reference lists of the identified studies were searched to identify any other relevant primary studies. The methodological quality on the retained primary studies was assessed using published criteria. A total of 67 studies was identified, including 48 cross-sectional and 19 longitudinal studies. As a group, cross-sectional studies suggest potential associations between several nurse staffing policies (e.g. richer skill mixes, fewer overtime hours, higher staffing levels) and better patient outcomes (e.g., fewer falls, decubitus ulcers or medication errors, less restraint use). However, these associations are not observed in longitudinal studies which, for the most part, report inconsistent associations between these staffing policies and patient outcomes. Overall, the strength of evidence in this body of literature is reduced by several important methodological limitations (e.g., small sample size, poor risk adjustment strategies, staffing policies with inconsistent operational definitions across studies). The accuracy with which both the exposure and the outcomes are measured is also limited. To support safe nurse staffing policy development in LTC and nursing home settings there is a pressing need for large scale and robust longitudinal studies conducted at the patient level of analysis. Important methodological development is also required to increase the accuracy of both nurse staffing and patient outcome measures.

Co-Author(s): Christian Rochefort

The Role of Nurse Practitioners in Long-Term Care Settings in Newfoundland and Labrador

Presented by: **Maria Mathews**, Professor, MUN

We explored the roles of family physicians (FP) and nurse practitioners (NP) in long-term care facilities in Newfoundland and Labrador (NL). We examined support for different approaches to improving the provision of primary care in facilities with no regular primary care provider, with only FP, and with FP and NP. We surveyed the managers of personal care homes and long-term care facilities in NL (hereafter LTC facilities) identified through the Department of Health and Community Services website. We assessed their opinions about the roles of various health care providers and their support for different approaches to improving primary care using a 5 point Likert scale (1= strongly disagree, 5= strongly agree). We used frequencies to describe the characteristics of the facilities, as well as the roles of FP and NP. We used ANOVA to identify differences in the attitudes among facilities with no primary care provider, FP only, and FP/NP. A total of 91 of 127 (71.7%) facilities completed the survey; 19 (21.3%) facilities had no primary care provider, 42 (47.2%) had FP only, and 28 (31.5%) had both FP and NP. The most common services provided by FP were assessing lab/diagnostic test results (100%), meeting with families (90.1%), and specialty/rehabilitation referrals (82.9%). The most common services provided by NP were treating pressure sores (63.3%), meeting with families (62.1%), receiving phone calls (59.4%), and participating on committees (59.4%). Facilities with no provider were more likely to rate continuity of care lower (2.59; p=0.000) than either facilities with FP (3.85) or facilities with FP/NP (3.78). All facilities agreed with the statement that increased availability of other health professionals (4.64) and using NP (4.47) would improve care. One fifth of all LTC facilities in NL have no regular primary care provider. NP currently have limited roles in LTC. There is widespread support for increasing the role of NP to improve physician resource issues and quality of care in LTC facilities.

Co-Author(s): Maria Mathews, Dana Ryan, Power Melissa

The value of public investment in vaccine development: a case study

Presented by: **Lusine Abrahamyan**, Assistant Professor, Institute of Health Policy, Management and Evaluation, University of Toronto, University of Toronto

Using a case study of a hypothetical vaccine for Clostridium difficile infection (CDI), the study aims to illustrate an approach of quantifying the relationship between costs and benefits of the investment in innovative solutions. This study compared strategy of vaccination (hypothetical) for CDI with no vaccination among elderly population (?65 years old) in Canada. Using historical information on CDI incidence, we projected the expected number of persons affected during 2024-2035 (estimated as 217,000 people), the years of life lost (YLL=108,271) with $3.6B in monetized value. Another $3.6B would be spent to cover CDI-related healthcare costs. Subsequently we attempted to estimate the probability of successful vaccine development targeting C. difficile, given the investment level and the associated benefits for such a therapy. Next, to measure the profitability of the potential investment, we calculated an internal Under the current care strategy, CDI would cost the Canadian government over $7.2 B over the period of 2024-2035. Assuming a 40% vaccine coverage rate and $180 vaccine cost per patient, the vaccination would avert 38,531 CDI cases, resulting in overall $639M net monetary benefit compared with the strategy of no vaccination. Under base-case scenario an IRR comprised 11%. One-sensitivity analyses were conducted to address the uncertainty in key parameters: vaccine effectiveness, coverage, costs, and uncertainties around successful vaccine development. The illustrated approach can be used by researchers and policy-makers in determining the value of investment for the innovative solutions.

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Multimorbidity: A Challenge for Health Services for an Aging Population

Presented by: **Mohammad Nazmus Sakib**, Graduate Student, Research Technician, Grader/Marker, University of Manitoba

Multimorbidity, defined as the presence of two or more chronic diseases in an individual, is one of the major public health concerns in Canada. The objective of the poster is to provide a review of the literature on multimorbidity while identifying the recommendations and directions for future health care system reform. A comprehensive literature search was conducted to identify elements of multimorbidity and related topics. Several online databases were searched with different combination of following keywords: "multimorbidity", "chronic diseases", "aging", "senior", "prevalence", "risk factor", "impact" "cost", and "health care". All the relevant articles were selected and the reference list of selected articles were also reviewed. All the collected articles were read thoroughly and important information was compiled to present in the poster. The term comorbidity is often incorrectly used for multimorbidity but these two terms are not synonymous. The prevalence of multimorbidity was found very high in older people. The common determinants are age, sex, socioeconomic status, the level of education, mental health disorders and obesity. Chronic diseases tend to occur in clusters and three main patterns were identified in the literature. The impact of multimorbidity is manifold. It greatly decreases the quality of life and impairs the functional status. Chronic disease indicator framework, developed by the Public Health Agency of Canada, is an important tool to interpret the trends of chronic diseases and develop public health interventions. The Chronic Care Model (CCM) was found better than the conventional care to support people suffering from multimorbidity. The rise of multimorbidity cases with aging population would create great instability in the health care system of Canada. However, they are often neglected in regards to both policy and from a care perspective. Frameworks like the CCM provide a useful way to conceptualize how multimorbidity could be managed.

Co-Author(s): Mohammad Nazmus Sakib

SPOR at the Institute for Clinical Evaluative Sciences (ICES): A case study identifying planned and unanticipated outputs and outcomes.
Presented by: **J. Charles Victor**, Senior Director, Research and Data, Institute for Clinical Evaluative Sciences
In 2013/14, ICES received five-year funding as one of 12 research centres under the Ontario SPOR SUPPORT Unit (OSSU). The objective of this case study was to assess how the six SPOR core functions and SPOR principles impacted ICES' operations and strategic priorities. Case study including comparison of ICES activities and metrics before and after SPOR funding (e.g., data access metrics, patient/public engagement, KTE, partnerships, ICES' 2017/18-2019/20 strategic plan vs. the 2013/14-2015/16 strategic plan) combined with qualitative assessment of the ways in which specific activities led or contributed to other ones. SPOR funding to ICES was primarily focused on increasing access to linked administrative health data holdings for Ontario-based researchers through a new ICES division, Data & Analytic Services (DAS). The institution of DAS combined with the principles of patient engagement and collaboration led to additional SPOR-related outputs. These included: DAS for non-Ontario researchers, novel research including linkage of existing non-ICES randomized clinical trial data to ICES data, a pilot of analytic services for the private sector, a stronger focus on knowledge translation and exchange (KTE) in ICES' research and communications, direct engagement with patients and members of the general public, and new collaborations with research centres within Ontario, nationally and internationally. ICES's revised strategic plan has evolved substantially to now include these new core areas. In addition to the main planned impact of increasing researcher access to data, SPOR funding and involvement of ICES in the OSSU has directly led to additional SPOR-related activities, outputs and outcomes in ways that were not specifically anticipated. ICES' direction moving forward has also been influenced by SPOR.
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Integrated Collaborative Care Models for Youth Mental Health and Addictions: a Scoping Review to Inform Health Policy
Presented by: **Cara Settipani**, Postdoctoral Research Fellow, Centre for Addiction and Mental Health
As policymakers at federal and provincial levels strive to improve mental health care while containing costs, integrated care approaches that bring together traditionally separate services to improve care access and reduce system fragmentation have gained attention. A scoping review is being conducted to understand the development of integrated care hubs. Seven electronic databases and over 25 grey literature sources have been searched for material from 2001-2016. Inclusion criteria is broad with respect to type of work, as all research studies are included as well as policy-documents, reports, and other documents that provide information relevant to characteristics and constructs measured in the context of integrated care for youth mental health. Titles and abstracts have been independently screened for eligibility by two raters using inclusion criteria. Full text articles are being independently screened for inclusion. A formal data extraction method is being used to synthesize results in quantitative and qualitative formats. The following data is being extracted from the literature: (1) characteristics of integrated care, namely, populations included, service settings, types of service providers, and interventions employed; and (2) constructs that have been specified, measured, or evaluated in the context of youth integrated care, such as outcomes and treatment engagement. By systematically reviewing the published and grey literature, this study provides an overall mapping of who has been involved in integrated care, where this care is delivered, what services are included, and what aspects of integrated care have been evaluated. This information will improve understanding of the goals behind efforts to implement integrated collaborative care models and ultimately enable identification of essential components of integrated care hubs addressing youth mental health and addiction. The landscape of mental health care is changing with the creation of youth-friendly integrated care hubs. This scoping review will identify what knowledge is available about integrated hubs and their implementation, what remains to be determined, and essential next steps for widespread scale-up, providing critical information for health service policymakers.
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Modeling Emergency Vehicle Usage Decision for Children and Youth with Mental Health Issue in Nova Scotia
Presented by: **Md Shamsuzzaman** , Postdoctoral Fellow, Saint Mary's University
It is crucial but challenging to predict a patient's selection of a particular health service offered. In this research, a modified discrete choice model (DCM) is proposed for modeling emergency vehicle use for children and youth with mental health problems in Nova Scotia. Proposed modification improves prediction error significantly. Records of emergency vehicle use for children and youth (ages between 6 to 18 years) were obtained during 2010-2015 in Nova Scotia. Obtained data was cleaned and secondary variables were generated using the available data (like, distance was calculated from the postal codes using Google Map API). Exploratory analysis was carried out and the variables are identified for modeling. Considering a service user as a rational agent as a utility maximizer is the basis for DCM modeling. We incorporated 'affect-probability weighting' in probability calculation with logistic regression. The model is fitted and validated with 70% and 30% of the data. Selection of a particular health service depends on different factors. Here, based on available data, we considered distance, gender, time-of-day and risk are the governing factors for calling an emergency service. The parameter estimation of the standard DCM and proposed DCM models are carried out using maximum likelihood estimation (MLE) method using the same 'testing' dataset alone. The 'validation' dataset is then used for prediction error calculation. Obtained results show that the modified DCM gives more than 9% correct prediction compared to that of the basic DCM. However, in both cases, prediction accuracy is still low and therefore, other statistical performance measures (like sensitivity, specificity etc.) are calculated. Proposed modification to the DCM for health service decision making looks promising. However, poor performance might have resulted from leaving out key factor(s) that are not available in our dataset. As more relevant data will be available, we can update and fine tune our model accordingly.
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Opposition to HPV vaccination on Twitter
Presented by: **Gilla Shapiro**, PhD Student, McGill University
The aims of this research were to evaluate the proportions and types of of concerns expressed about the HPV vaccine on Twitter among users from Australia, Canada and the UK; and to examine the social network within and between users posting tweets about HPV vaccines in the three countries. Tweets related to HPV vaccines during January 2014 to April 2016 were collected in Australia, Canada and the United Kingdom. A gazetteer was used to transform the text provided by users into coordinates. To enable the classification of a large number of tweets, two stages of machine learning classifiers were constructed from a sample of tweets that were manually coded by two investigators. Data captured included the text of tweets, information about users' locations, and social connections (who they follow). The Macquarie University Human Research Ethics Committee (#5201401028) and the University of Melbourne's Research Ethics Board (#1647488.1) provided ethics approvals. Of 129,286 users posting tweets in the period, 2,792 were from users in Australia (19.3% of 7,173 tweets expressed concerns); 7,237 were from Canada (14.9% of 18,927 tweets expressed concerns), and 6,760 were from the UK (22.6% of 17,752 tweets expressed concerns). The types of concerns expressed were similar across the three countries, with barriers to vaccination the most common. Users who posted tweets expressing concerns about HPV vaccines tended to have a greater proportion of followers who also expressed concerns, and a greater proportion of followers from across international boundaries. The results indicate the relative strength of international ties among users who express concerns about HPV vaccines. HPV vaccination uptake is critical to cancer prevention efforts but vaccine-related controversies and safety concerns expressed in social media have the potential to spread across countries. Monitoring networks of users who express concerns by location can support public health professionals in the development of interventions to address concerns.
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Policies in flux: Canada's HPV vaccine programs
Presented by: **Gilla Shapiro**, PhD Student, McGill University
Because human papillomavirus (HPV) can result in morbidity and mortality, Canada has initiated vaccination programs to reduce this health burden. This research aims to provide an accurate and current overview of Canadian school-based HPV vaccination programs and vaccination rates, and to identify foreseeable policy considerations in Canada. Between July and October, 2016, we searched the academic and grey literature and contacted administrators of provincial and territorial immunization programs to compile information regarding HPV vaccine program administration and vaccination rates in Canada's 13 provincial and territorial jurisdictions. We sought to identify the most current details of school-based HPV vaccination programs (such as the eligible population, the type of vaccine, and the number of doses administered) and HPV vaccination rates in each Canadian jurisdiction (such as "uptake" or first dose and "completion" or final dose). All 13 Canadian jurisdictions vaccinate girls, and six jurisdictions currently include boys in school-based publicly funded HPV vaccination programs. As of September 2016, eleven jurisdictions administered the HPV vaccine in a two-dose schedule. The quadrivalent vaccine (HPV4) has been the vaccine predominantly used in Canada; however, the majority of provinces will likely adopt the nonavalent vaccine in the future. British Columbia has recently announced that it will also fund the HPV vaccine for all boys beginning in September 2017. According to available data, vaccination uptake among females ranged between 47%-93.9%, while vaccination uptake among males (in programs with available data to date) ranged between 77.9%-87.4%. Canadian jurisdictions will soon need to consider whether to administer the nonavalent vaccine, whether to implement a two or one-dose vaccination schedule, and how to improve uptake and rates of completion. Standardizing methodologies for reporting HPV vaccination coverage and implementing a national registry were identified as important priorities.
Co-Author(s): Gilla Shapiro, Juliet Guichon, Margaret Kelaher

Managerial strategies for integrated care: Health care provider engagement in the iCOACH project
Presented by: **Jay Shaw**, Scientist, Women's College Hospital
The implementation of integrated care involves efforts to engage health care providers in a vision of health care delivery that includes coordination and collaboration for the care of individual clients. The objective of this analysis was to examine how health care providers engage with an organizational vision for integrated care. This paper reports initial findings on health care provider engagement in efforts to implement integrated community-based primary health care from the iCOACH project (Integrated Care for Older Adults with Complex Health Needs). The research project draws on in-depth international case studies of organizations in 3 jurisdictions: Ontario, Canada (n=3), Quebec, Canada (n=3), and New Zealand (n=3). Drawing on the theory of institutional logics, this report will include data from health care provider and organizational management/leadership interviews across all 9 case studies. Preliminary findings suggest that health care providers respond to organizations' visions for integrated care differently depending on whether they feel supported to practice in more integrated ways. Even within a single organization, health care providers may enact or resist the organizational vision (and thus institutional logic) toward integrated care depending on the extent to which they feel engaged. Managerial approaches were found to be of central importance, helping to determine the extent to which health care providers adopted more integrated practices in the provision of everyday care delivery. These findings were illustrated across case studies in each of the 3 study jurisdictions. Our findings point to the importance of managerial engagement strategies to promote health care provider buy-in to an organizational vision of more integrated care. The key lesson learned is that health care providers respond differently to a single managerial approach, and leaders should anticipate different reactions from different health providers.
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Development of a short form instrument to measure engagement of physicians and managers in Canadian health-care facilities [Work in Progress]
Presented by: **Graham Shaw**, Graduate Student, UBC
Physician engagement is an important focus of health system improvement initiatives in Canada. Based on an instrument developed and tested for the Québec Association of Health and Social Service Centres, this study reports on progress towards a short-form version that aims to reduce survey administration costs and response burden. Items for a short form survey were derived using factor loadings on a principal components analysis of Quebec data. Representative items from the separate factors (using the 66-item instrument) were combined into an 11-item instrument representing primary dimensions of the engagement construct. The value of the short form as a proxy for the longer form was estimated by examining correlations between the short and long-form scores (scales and totals). A sensitivity analysis was conducted using dichotomized scores for engagement on both forms of the instrument across a range of cut-off scores representing decision criteria (25th 50th and 75th percentiles). The results based on Quebec data show that short form score totals correlate r = .94 (361) (p < .01) with longer instrument score totals. The strength of the correlations is similar for physicians only r =.925 (221) (p < .01) and for physician managers r= .938 (353) (p < .01). Using dichotomized scores (on both versions of the scale) across the selected cut-points, a sensitivity analysis showed a minimum sensitivity of 84% and a minimum specificity of 82%. Range: 25th percentile cutoff (sensitivity = 86%, specificity = 94%), median cutoff (sensitivity = 84%, specificity = 84%) and 75th percentile cutoff (sensitivity = 94%, specificity = 82%). This work contributes to operationalizing the construct of physician engagement for use in the Canadian context. Findings suggest further work to confirm the validity and generalizability of this low-burden instrument. Initial application of the new short form is planned in a number of BC Health facilities through 2017.
Co-Author(s): Graham Shaw, Asif Khowaja, Neale Smith, Craig Mitton , Chris Lovato, Jean-Louis Denis, Ann Langley

CP2: Community Partners for Children's Participation
Presented by: **Keiko Shikako-Thomas**, Assistant Professor, McGill University
To identify socio-demographic and policy and programs-related factors that influence the participation of children with cerebral palsy (CP) in the community, and to engage a variety of stakeholders in this process. To explore trajectories of participation across communities in Quebec to inform policy interventions. 89 participants from the Quebec CP registry were recruited using a stratified randomized sampling strategy based on deprivation index quintiles and Gross Motor Function levels. Participants' material and social deprivation index was associated to the postal code at time of registration. Parents completed a socio-demographics questionnaire, commented on their access to policies and programs in their communities, and their perceived usefulness of existing programs to their child's participation. Retrospective data was taken from the Quebec Office for Persons with Disabilities, to ascertain existing programs in different regions. Participation levels and environmental barriers were measured using the Participation and Environment Measure. Children with CP participated mainly in unstructured activities such as neighbourhood outings and informal gatherings than organised and formal activities such as classes, volunteering or spiritual gatherings. Barriers to participation included stress to coordinate child needs and activity structure, lack of adapted transportation and information, distance from home and finances. Best predictive model containing socio-economic and neighborhood factors explained 41% of the variance in participation in the community. Family income (coef. = 0.99; CI= 0.3 - 1.69) as well as the number of resources parents consult to find activities (coef. = 0.28; CI=0.0322 - 0.383) were positively and significantly associated with participation in leisure activities. Social and material deprivation of the neighbourhood had a negative relation (coef.= -0.579; CI= -1.062 - -0.0969) with participation frequency. Socio-economic factors and access to information play a vital role in enabling participation in the community for children with CP. Public health policies and initiatives should create equitable, inclusive and accessible communities, considering social and material deprivation and the needs of vulnerable populations such as children with disabilities and their families.
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Chronic disease self-management among people living with HIV
Presented by: **Esther Shoemaker**, Researcher, Bruyère Research Institute
People living with HIV on antiretroviral therapy are aging with episodic chronic conditions and may benefit from chronic disease self-management approaches used in conditions like diabetes. As a first stage in understanding self-management ability of people with HIV, we measured their self-management skills using the validated Patient Activation Measure (PAM®). We conducted a cross-sectional survey study in 2016 with two cohorts, people living with HIV and people living with diabetes mellitus. We used the PAM® to assess respondents' self-management ability. This quantitative assessment tool asks about respondents' knowledge, skills, confidence, and engaging in and maintaining health behaviours. The scores are then categorized into one of four activation levels. We used descriptive statistics to compare the demographics of the two cohorts and conducted univariate and multivariable logistic regression, adjusted for patient characteristics, to assess associations between the patient demographics and PAM® scores. The survey was answered by 156 people with HIV and 162 people with diabetes. The cohorts had similar mean ages (50.5 for HIV versus 52. 5 for diabetes) but differed based on gender and ethnic background, with a higher proportion of people who identified as men and African/Caribbean/Black in the HIV cohort. People with HIV had high levels of activation that were no different from those of people with diabetes (mean score=67.2, SD=14.2 versus 65.0, SD=14.9, p=0.2). A similar proportion of people from both cohorts was considered fully activated (34.6% for HIV versus 28.2% for diabetes). After adjusting for patient characteristics, the odds of being fully engaged were only lower for people on disability compared to being employed (aOR=0.3, 95% CI=0.1 - 0.7, p=0.01). People living with HIV have high levels of activation that are comparable to patients with diabetes mellitus. Our study sheds new light on the potential for the implementation of already existing standardized chronic disease self-management programs to enhance the care delivery and improve outcomes among people living with HIV.
Co-Author(s): Esther Shoemaker, Clare Liddy, Paul MacPherson, Eleni Levreault, Piragas Puveendran, Ron Rosenes, Christine Bibeau, Philip Lundrigan, Lois Crowe, Danielle Rolfe, Lisa Boucher, Anita Rachlis

Factors influencing the development of the combined Applied Behavioural Analysis/Intensive Behavioural Intervention Program in Ontario
Presented by: **Ayesha Siddiqua**, PhD Candidate, McMaster University
To provide children with Autism Spectrum Disorder (ASD) with more comprehensive services, a combined Intensive Behavioural Intervention (IBI) and Applied Behavioural Analysis (ABA) based therapy program will be introduced in Ontario in 2018. The purpose of this analysis is to determine factors that contributed to the development of this program. Using the 3-I framework, institutions, interests, and ideas influencing the development of the new program were examined. The analysis was based on document analysis. A Google search was conducted for "ABA services Ontario" and "IBI services Ontario". This search identified government and organizational documents, court case proceedings, and media articles. These documents were reviewed, followed by another Google search to determine additional details on events mentioned in these documents if they appeared relevant for the analysis. The websites of different stakeholders identified through Google search were also searched for relevant documents. Institutionally, the close alignment of the mandate of the new program with longstanding policy legacies supported its development. Informal interest groups (parents) and formal interest groups (Ontario Autism Coalition) led many advocacy initiatives that presented a strong opposition to the provincial government to change current practice of IBI service delivery. While different ministries justified their service delivery approach based on research evidence, the research evidence and colloquial evidence presented by Ontario Autism Coalition and parents respectively played a superior role in supporting the development of the new program. Although different ministries emphasized the importance of providing cost-effective services, mass opinion dictating children should not be denied services on the premise of return on investment highlighted the necessity of the new program. Findings of this analysis can support decision makers by improving their understanding of different factors and their relative importance in driving policy change related to ABA and IBI services delivery, which can help generate insights for how policy processes, policy advocacy, and policy implementation can be improved in the future.
Co-Author(s): Ayesha Siddiqua

Modifying the 'Modified Delphi' – Indicator Selection for Public Reporting at Health Quality Ontario
Presented by: **Anita Singh**, Measurement Specialist , Health Quality Ontario
Health Quality Ontario is mandated to publically report on the performance of the provincial health care system. To achieve this mandate, we have developed a novel methodology for the selection of a set of indicators that can help providers, stakeholders and the public better understand how the system is performing. Health Quality Ontario is mandated to monitor and report on the performance of Ontario's health system. To maintain the relevance of our reporting, we conduct comprehensive indicator reviews of our publicly-reported indicators. To ensure a robust review, HQO has adapted the modified Delphi process, traditionally based on evidence and expert opinion, to engage in consultations to incorporate public and provider input all multiple stages for the selection process. Consultations included focus groups, survey methods and individual interviews. This process has most recently been used to recommend a robust set of indicators for public reporting on hospital and home care performance. Using extended consultations, a new communications strategy and open feedback systems, the final set of recommended indicators are relevant and impactful and promote engagement between public reporting and quality improvement priorities for organizations (in scorecards and other internal reporting). We will demonstrate how these modifications have yielded indicators that are more relevant for public reporting. Further, indicators recommended through our process have informed other provincial work including accountability agreements and topics for quality standards. This modified "Modified Delphi" has successfully been used to select indicators for primary care, long-term care, hospital care (patient safety) and home care. This modified "Modified Delphi" has helped mitigate the risks associated with changing reported indicators, by ensuring strong consultation and defensible, rational decision-making. Our new process has allowed us to identify robust and impactful indicators for public reporting and has increased the transparency of our work. This process is transferrable to all organizations that are interested in systematically producing a set of priority measures based on public, provider and expert consensus.
Co-Author(s): Anita Singh, Mark McPherson, Naushaba Degani, Gail Dobell, Anna Greenberg

Investigating the social determinants of 30-day hospital readmission among medical patients in Toronto, Canada.
Presented by: **Robert Smith**, Student, University of Oxford
Hospital readmissions remain a common and costly health system performance issue. The causes of readmission are complex and not well understood—particularly the role of sociodemographic factors. The aim of this study was to examine the influence of patient-level sociodemographic factors on hospital readmission within 30 days among medical patients. Patients treated on general internal medicine units at an urban teaching hospital in Toronto participated in a detailed survey of sociodemographic information. A linked dataset including 1427 adult, non-palliative patients discharged home was analyzed. Guided by a retrospective cohort design, multivariable Cox regression analyses examined relationships between 13 sociodemographic variables and unplanned all-cause readmission over 30 days. Indicators of illness-level that were controlled for include Hospital Admission Risk Prediction (HARP) index score (age, primary diagnosis, frequency of previous hospital utilization, discharged disposition), Charlson Comorbidity Index score, and inpatient length of stay. Approximately 14.4% (n = 205) of patients experienced readmission within 30 days. Patient-level sociodemographic factors did not exhibit significant associations with 30-day readmission. HARP scores from nine to 29 (compared to 0-2), were associated with 66% greater hazard of readmission (adjusted HR=< /em>1.66, 95% CI: 1.08-2.54, p = 0.02) and fair self-perceived health was associated with increased hazard of readmission (adjusted HR=< /em>1.45, 95% CI: 1.02-2.05, p = 0.04). When HARP variables were analyzed as separate covariates, having experienced one previous admission (adjusted HR=< /em>1.78, 95% CI: 1.22-2.59, p < 0 .01) and at least four emergency department visits (adjusted HR=< /em>2.33, 95% CI: 1.46-4.43, p < 0 .01) were associated with increased hazard of readmission, while fair self-perceived health was no longer significantly associated with readmission (adjusted HR=< /em>1.39, 95% CI: 0.98-1.98, p=< /em>0.07). The influence of sociodemographic factors on the incidence of 30-day unplanned all-cause readmission remains unclear among medical patients. Attentiveness to patients' sociodemographic circumstances is an important component of patient-centered care. However, to prevent
readmissions, improving standardized hospital-to-home care transition processes and follow-up care in the community should remain paramount.
Co-Author(s): Robert Smith, Kerry Kuluski, Andrew Costa, Richard Glazier, Alan Forster, Lianne Jeffs

Identification of validated case definitions for chronic disease using electronic medical records (EMRs): A systematic review

Presented by: **Sepideh Souri**, Student, University of Calgary

Secondary data, derived from primary care electronic medical records (EMRs) are being used for research and surveillance. To broaden their usability, we must specify case definitions to identify important chronic conditions. The purpose of this study is to identify case definitions that have been validated in primary care EMR data. We performed a systematic search of Embase and MEDLINE to identify studies that describe case definitions for clinical conditions in EMR data and reported the performance of these definitions using validity metrics (specificity, sensitivity, positive and negative predictive values). We then compared the performance of different case definitions for the same conditions and explored the influence of data sources, jurisdiction, and patient population. Two independent reviewers screened abstracts and full-text articles. The quality of each study was evaluated using the QUADAS tool. The initial search produced 6664 articles after removing duplicates and 40 were selected for inclusion in the review. The majority were published between 2010-2016 (82.5%) and most took place in Europe (62.5%). Case definitions were identified for 47 acute and chronic conditions. There were multiple definitions for diabetes (n=8), colorectal cancer (n=2), depression (n=3), hypertension (n=6), Chronic Obstructive Pulmonary Disease (COPD) (n=6), asthma (n=3), arthritis (n=3), and skin and soft tissue infections (n=2). The studies used International Classification of Disease version 9 (ICD-9) criteria and read codes along with laboratory values and medications for the algorithms. The most frequently used validity measure was positive predictive value (PPV). Most studies (70%) were found to be of good quality (score > 3/6) using the QUADAS tool. Our review of the literature found a significant number of validated case definitions with good accuracy for use in EMR data. Existing case definitions will serve as a starting point for the development of new case definitions and will enable better surveillance based on detailed clinical EMR data.

Co-Author(s): Sepideh Souri, Nicola Symonds, Tyler Williamson, Gabriel Fabreau, Cord Lethebe, Azin Rouhi, Stephanie Garies, Richard Birtwhistle, Hude Quan, Paul Ronksley, Kerry McBrien

Development of a Decision Aid for Young Canadians Diagnosed with Breast Cancer who are at Risk of Infertility Following Cancer Treatment

Presented by: **Brittany Speller**, Graduate Student , University of Toronto

Young breast cancer patients are at risk of temporary or permanent treatment-related infertility. The study aimed to determine the fertility-related information health care providers and breast cancer survivors consider valuable for inclusion in a Canadian fertility decision aid for young breast cancer patients by reviewing existing decision support resources. A qualitative descriptive approach was used to evaluate 6 decision support resources created in other jurisdictions. Using purposeful sampling, 8 multi-disciplinary health care providers and 8 breast cancer survivors from across Canada evaluated 1 to 2 decision support resources in structured interviews. Interviews were conducted in-person and by telephone from March to June 2016 and ranged in length from 30 to 90 minutes. Interviews were transcribed verbatim, organized in NVivo, and analyzed deductively against the components of the interview guide. Each decision support resource had useful components to adapt for the Canadian fertility decision aid. Participants felt it would be useful to include Canadian-specific and accurate information on resources for additional support and the success rates and cost ranges of fertility preservation procedures. There were mixed views on the impact and value of including in-depth fertility information such as adoption and other fertility-related options after treatment. Discrepancies were also seen on the value of personal stories and including an exercise to help patients clarify the value they place on the different fertility options. There was overall consensus on the inclusion of only pertinent fertility-related information that does not replicate information in supplementary patient education material to avoid overwhelming patients. The evaluation revealed sections of existing decision support resources that can be adapted for the Canadian fertility decision aid. Findings were used in combination with the International Patient Decision Aid Standards criteria to ensure the decision aid meets best practices and the information needs of young women with breast cancer.

Co-Author(s): Brittany Speller, Nancy Baxter, Amanda Sissons, Erin Kennedy, Marcia Facey, Kelly Metcalfe

Examining the trajectory of cognitive decline in the home care and long term care (LTC) population in Ontario

Presented by: **Sarah Spruin**, Methodologist I, ICES UOttawa

Dementia is associated with a decline in cognitive function, but the rate of decline has not been previously examined at a population level. This study aims to describe the change in cognitive function among populations receiving home and long term care (LTC) in Ontario over 3 years. Using administrative health data at the Institute for Clinical Evaluative Sciences (ICES), we captured home care and LTC residents with more than 1 Residential Assessment Instrument (RAI) record beginning January 1, 2007 (home care) and January 1, 2009 (LTC), and ending June 30, 2015. A baseline Cognitive Performance Scale (CPS) score, along with demographic/functional characteristics (e.g., age, sex, chronic health conditions), were obtained from the earliest RAI assessment for each care recipient. Cognitive decline was measured by changes in the CPS score over subsequent assessments. Statistical techniques, including subgroup analyses, will be used to model the trajectory of cognitive decline. 489,056 Ontarians were found to have at least 2 assessments (home care or LTC) based on the criteria above. Approximately 50% had at least 6 assessments combined. Most Ontarians (over 90%) entered the study with an initial CPS score between 0-3 indicting moderate to no cognitive impairment, with 38% of residents entering with no impairment. Preliminary results demonstrate an average increase in the CPS score of Ontarians by 0.2 between the first and second RAI assessments, and 0.8 between the first and last assessments, indicating a temporal decrease in cognitive function over both number of assessments and time. Greatest cognitive declines were observed in Ontarians with an initial CPS of 0 with an average increase in CPS between the first and last assessments of 1.1. We show, at a population level, Ontarians entering LTC or home care have similar rates of cognitive decline over multiple assessments and time. These results give a better understanding of cognitive decline at the population level which will help improve dementia identification and inform home care and LTC planning.

Co-Author(s): Sarah Spruin, Peter Tanuseputro, Stacey Fisher, Amy Hsu, Annie Robitaille, Geoffrey Anderson

Describing 'success cases' of an outpatient case management service: A realist analytic approach to an intervention designed to address a complex issue

Presented by: **Tara Stewart**, Health Services Researcher, George and Fay Yee Centre for Healthcare Innovation

Outpatient case-management is a common approach to redesigned care for frequent-users of acute services; yet knowledge-gaps exist regarding for whom it works best. Underpinned by IHI quality improvement goals, we used a realist analytic approach to identify and describe patients for whom outpatient case-management was associated with decreased ED visits. N=114 patients (60% female, average age=73) receiving outpatient case-management were each matched to a no-intervention/treatment-as-usual comparison case on three characteristics: Age, gender, and annual frequency of ED visits. We compared pre-post changes in frequency of ED visits across each patient and his/her matched counterpart: Any patient whose ED visits decreased by a margin of greater than one, as compared to his/her matched counterpart, was considered a success case. We removed all neutral cases, patients confirmed deceased, those who were transitioned to institutional care, and those who voluntarily withdrew. This left n=25 successful cases and n=37 unsuccessful cases for in-depth analysis. Multiple administrative data sources were used to compare successful cases to unsuccessful cases on a range of variables in the following categories: Sociodemographics; Health Status (physical, mental); Behavioral Health; Functional Status; and Social Support (quantity, quality). One a priori hypothesis, based on frontline service-providers' experience with patients, was tested: Outpatient case-management would be maximally effective for patients lacking in social support (quantity/quality). All other analyses were exploratory in nature. Several statistically-significant differences emerged from a series of Chi-Square and t-tests, resulting in the following characterization of successful cases: A decrease in ED visits following outpatient case-management was most likely for patients with advanced age (M = 76 vs. M = 68); patients with diagnosed cardiovascular conditions; and, as hypothesized by providers, patients who were lacking in social support. Findings suggest that success of this particular outpatient case-management service may vary by patient age, cardiovascular history, and social support. A data-driven approach and small sample size means this analysis must be interpreted with caution; further analysis may be warranted to refine the target population for this outpatient case-management service.

Co-Author(s): Tara Stewart, Colleen Metge

Development of the Home Care Categorization Tool (HCCT) for Long-Stay Patients

Presented by: **Heebah Sultan**, Health Data Analyst, Health Shared Services Ontario

Ontarians deserve high-quality and consistent home care that is delivered using solutions that are evidence-informed. As the home care sector transitions to using the interRAI HC, a new Home Care Categorization Tool (HCCT) was developed to provide care coordinators with evidence-informed decision support and a consistent process for population identification. Ontario long-stay home care patients who completed at least one RAI-HC assessment in fiscal year 2015-2016 were identified using the provincial technology solution utilized by care coordinators. Classification-and-Regression-Tree (CART) analysis was used to determine the best predictors of the Client Care Model (CCM) patient population categories. Site level validation was performed to assess the tool's robustness and clinical expert consultations also contributed to the development of the HCCT. Field testing of the tool was conducted in six sites in the fall of 2016. The foundation of the HCCT is the Personal Support Algorithm, a new tool that considers patients' functional needs, and thus, 6 trees were developed, one for each care group. Other components of the tool include the CPS, MAPLe, CHESS, ADLH, CRISIS Score, and DIVERT Score. The model accuracy ranges from 65-76%, with increasing CCM population complexity from care groups 1 to 6. Results from the field testing showed that approximately 81% of the CCM populations selected by the care coordinators match the population predicted by the HCCT; 7% did not match, though care coordinators indicated that, if given a choice, they would change to the population predicted by the tool; and for 12% of the assessments, the care coordinators disagreed with the HCCT predicted population. The HCCT tool is expected to be implemented in the provincial technology solution prior to the transition to the interRAI-HC to support care coordinators in their decision-making process. The HCCT is intended to be used conjointly with care coordinators' clinical expertise and judgment, and patient and caregiver needs and preferences.

Co-Author(s): Heebah Sultan, Janet McMullan

Scheduled Day Surgery for Type II Supracondylar Fractures in a Paediatric Tertiary Care Hospital: A Cost-Minimization Analysis

Presented by: **Heebah Sultan**, PhD Student, Institute of Health Policy, Management and Evaluation, University of Toronto

The study objective was to quantify and compare costs of a scheduled day surgery approach to the standard of care (inpatients undergoing surgery) for type II supracondylar humeral fractures (SCH#) at an Ontario paediatric hospital, as evidence suggests that surgical delays for up-to four days does not affect clinical outcomes. Using a cost-minimization approach, the base case analysis adopted was the health system perspective and a secondary analysis adopted the societal perspective. The time horizon was from the episode-of-care to discharge following surgery. A decision tree was developed to model both pathways using probabilities derived from chart reviews and costing data sources. Uncertainty in model parameters were assessed using one-way and probabilistic sensitivity analyses for the probabilities of requiring an open reduction, ambulatory costs for the hospital and for transfers, and average inpatient and acute care costs. Results were expressed as costs per patient per episode-of-care in 2016 Canadian dollars. Findings demonstrated cost savings of $2,697 from the health system perspective and $2,348 from the societal one. On average, adoption of the scheduled day surgery approach would save the health system 1.2 inpatient days. Another significant cost saving included the option to schedule surgeries on weekdays and during regular work hours, avoiding additional after hours and weekend fees for physicians. For the societal perspective, hospital stay and physician costs were significant cost drivers. Increased travel time, parking, and productivity loss costs would be absorbed by families and businesses, despite the cost savings to the health system. Sensitivity analyses confirmed that the day surgery approach would yield savings 98% and 99% of the time for the health system and societal perspectives, respectively. This study suggests that a scheduled day surgery approach for pediatric type II SCH# represents significant cost savings from both health system and societal perspectives. Exploration of costs absorbed by families and examining how the proposed approach affects the experience of children and families should be examined in greater depth.

Co-Author(s): Heebah Sultan, Reham Abdelhalim, Shawna Cronin, Mark Camp, Myla Moretti, Rebeccca Hancock-Howard, Peter Coyte, Daniel Pincus

Improving Clients' Self-Care and Their Informal Caregiver's Care-Giving Experiences To Promote Home Care Safety
Presented by: **Winnie Sun**, Assistant Professor, University of Ontario Institute of Technology
The purpose of this study was to explore the clients and their informal caregivers' perspectives of home care safety in relation to self-care and caregiving activities.   This qualitative research study utilized one-on-one, in-depth, semi-structured interviews with the clients and their informal caregivers recruited from one home care agency in Ontario, Canada. Older home care clients (over the age of 65) and their informal caregivers were asked to describe the safety challenges and concerns in their homes, and to identify the role for health practitioners in home care to provide support for their self-care and disease management.   Analyses of the qualitative descriptions revealed four over-arching themes: (1) Struggling through multiple aspects of safety challenges; (2) Managing therapeutic self-care by developing knowledge, competency and self-confidence; (3) Coping with informal caregiving through problem-solving, stress management and caregiver relief; (4) Seeking education, support and collaboration from home care. These findings highlight the need for developing health care delivery model that builds more collaborative partnerships with clients and their caregivers to promote safety in homecare. The study findings provided insight into the safety problems related to therapeutic self-care, and the role of health practitioners in improving client's self- care ability to reduce safety related risks and burden for older home care recipients.
Co-Author(s): Winnie Sun

Participants' perspectives of a work rehabilitation program integrated into mental health services in primary healthcare
Presented by: **Chantal Sylvain**, professeure, Université de Sherbrooke
In Canada, few early work rehabilitation services are offered to prevent long-term work disability due to common mental disorders, despite population-level needs. Our study sought to describe the active components of a work rehabilitation program recently implemented in primary healthcare, from the participants' perspective. This study is the qualitative part of a broader research project aimed at the developmental evaluation of the program using a mixed methods approach over a two-year period. We conducted semi-structured interviews of 26 participants who agreed to be contacted after program completion. One inclusion criterion was having completed at least four weeks in the program. The interview questions concerned the program components they considered beneficial and their reasons. The interviews were conducted by telephone and recorded. Thematic analysis was performed on detailed summaries of the interviews. Converging themes were identified and classified by component type. The active components identified concerned the interventions' group format, activities, and occupational therapists. Participants saw the group format as offering three benefits: (1) offsetting the feelings of isolation and shame associated with mental disorders; (2) allowing them to adjust their view of their work disability and means for reducing it; and (3) reactivating their social interaction skills. The activities seen as most beneficial concerned training on techniques to better cope with work and daily life (e.g. mindfulness meditation). Occupational therapists were seen as having three main functions: (1) relaying information to the physician, insurer, and other partners; (2) coaching (supporting integration of the techniques, giving meaning to the experience, pointing to resources outside the program); and (3) ensuring the therapeutic environment of the group interventions. Work rehabilitation programs in mental health are still scarce in primary healthcare in Canada. The results of our study provide valuable insights into components that should be given priority if we are to ensure that future programs meet this population's needs and promote their health.
Co-Author(s): Chantal Sylvain, Marie-José Durand, Pascale Maillette

Level of Need, Divertibility, and Outcomes of Newly Admitted Nursing Home Residents
Presented by: **Peter Tanuseputro**, Investigator, Bruyère Research Institute & Ottawa Hospital Research Institute
To describe – at a population level – the level of need and divertibility of newly admitted nursing home (i.e., long-term care facility) residents. We also describe the factors that drive need and the outcomes of residents across different levels of need. We captured all newly admitted residents in Ontario's 640 publicly-funded nursing homes between January 1, 2010 and March 31, 2012. We categorized residents into 36 groups based on their: cognitive impairment, difficulty in Activities of Daily Living (ADL), difficulty in Instrumental ADLs (IADL), and caregiver presence at home. Residents were further categorized as low, intermediate, or high needs; applying results from previous 'Balance of Care' studies, we also captured who could have been cost-effectively diverted into the community. Characteristics and outcomes were contrasted across needs and divertible groupings, including for: hospital admissions, emergency room visits, mortality, and return to home. A population-level cohort of 64,105 incident admissions was captured. About two-thirds had great difficulty performing ADLs (65%) or mild to severe cognitive impairment (66%); over 90% had great difficulty with IADLs. Just under 50% were considered to have high care needs (cognitively impaired with great ADL difficulty), while only 4.5% had low care needs (cognition and ADL intact). Those with dementia (71.0%) and previous stroke (21.5%) were over-represented in the high needs group. 41.3% (n=26,502) of residents cannot be diverted to anywhere but an institution with 24-hour nursing care. Only 5.4% (n= 3,483) could potentially be cost-effectively diverted to the community. Those at higher needs experienced higher rates of mortality, higher cost across all health sectors, and lower rates of return to home. Newly admitted nursing homes residents generally have high needs – driven largely by dementia and stroke– and could not have their needs met cost-effectively elsewhere, suggesting a system at capacity. Meeting the long-term care needs of the aging population should consider the balance of investments in institution and community settings.
Co-Author(s): Peter Tanuseputro, Amy Hsu, Kerry Kuluski, Mathieu Chalifoux, Melissa Donskov, Peter Walker

Women's behaviors toward mammogram and Pap test: opportunities to increase cervical cancer screening participation rates

Presented by: **Simon Tavasoli**, Senior Research Associate, Cancer Care Ontario

Screening rates for breast and cervical cancer remain moderate among women over 50 years of age. Because cervical and breast screening interventions can be linked, evaluating screening factors relating to both is important. This study evaluates characteristics associated with breast and cervical cancer screening participation in women aged 52–69. A cross-sectional study was used to describe individual and physician characteristics associated with breast and cervical cancer screening behaviours of 1,173,456 eligible women aged 52 to 69 in Ontario, Canada. Overdue for screening was defined as >2.5 years from last mammogram or >3.5 years from last Pap test. Factors that might influence uptake of mammogram or Pap test were included as covariates in a multivariable multinomial logistic regression model. Overall, 52.4% of eligible women were up-to-date for both, 21.3% were overdue for both, 14.4% were overdue for Pap test but were up-to-date with mammogram, and 12.0% were overdue for mammogram but were up-to-date with Pap test. There was an opposite effect of age on likelihood of being overdue for Pap test only versus mammogram only. Women aged 67–69 compared to 52–54 were more likely to be overdue for Pap test only (AOR=2.3; 95% CI 2.3–2.4) and less likely to be overdue for mammogram only (AOR=0.5; 95% CI 0.5–0.6). Women rostered to a male physician versus a female physician were more likely to be overdue for Pap test only (AOR=2.3; 95% CI 2.3–2.4) or to be overdue for both tests (AOR=5.2; 95% CI 5.0–5.2). Comparing screening patterns may provide physician and patient directed strategies to increase cervical cancer screening participation by recruiting women who are overdue for Pap test but undergoing breast cancer screening.

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Relationships between preferred role in treatment decision-making and e-health literacy

Presented by: **Vidhi Thakkar**, Doctoral Candidate, University of Toronto IHPME

Involving patients in treatment decision-making requires understanding and respecting their preferred roles, which are known to vary. in this study, we are examining the inter-relationships between patients' use of information resources, trust in the physician, perceived e-health literacy, and their preferred roles. This mixed methods study combines a quantitative survey and interviews. The survey uses validated scales to measure: preferred role in treatment decision-making (PSDM scale), perceived level of e-health literacy (e-HEALS scale), and trust in the physician, as well as participant demographics. Supplemental qualitative interviews are conducted with a subset of respondents to further examine their views on patient participation, including the impact of the availability of on-line information on their preferred roles. These are analyzed using thematic analysis approach. The study populations include a pilot study of healthy participants and, pending ethics approval, glaucoma and primary care patients. The PSDM scale distinguishes between preference-independent 'problem-solving' (PS) tasks and 'decision-making' (DM) tasks, classifying preferred roles into autonomous, shared or passive. Although previous work found few preferred an autonomous role, this did not capture increased availability of health information. Preliminary pilot study results from 6 healthy participants (mean age = 34, 67% female) found that even in a population with a high level of e-health literacy, all participants preferred a shared role, and showed a greater tendency to hand over PS tasks for chest pain. After ethics approval, data collection will begin with glaucoma and primary care patients. Results of this part of the study, which show the relationship between the PSDM, e-HEALS, trust in the physician scale, and interview thematic findings will be presented. Although based on a small convenience sample, preliminary findings suggest that even with high amount of information online and a high level of perceived eHealth literacy, healthy participants still preferred a shared role in decision making over an autonomous role. Current models of patient engagement may not reflect these patient preferences.

Co-Author(s): Vidhi Thakkar, Raisa Deber, Aviv Shachak, Neeru Gupta, Nav Persaud

Modification of a priority setting instrument for cataract surgery: Application of a modified Delphi process in a community setting

Presented by: **Bronwyn Thompson**, Research Associate, Trillium Health Partners

The Delphi process, a method to derive group consensus, is frequently employed in healthcare with the optional addition of a face-to-face meeting depending on the purpose. This presentation illustrates the approach and lessons learned using a modified Delphi process to reach consensus with the purpose of modifying a measurement instrument. An expert panel was assembled through snowball sampling using an emailed letter for recruitment. An electronic survey was developed incorporating criteria from the existing instrument and other related items identified through a literature search and expert opinion. The panelists were asked to rate the relevancy of each criteria on a 5-point Likert scale to determining appropriateness and prioritization for cataract surgery. Panelists also had the opportunity to add items they felt were missing. To derive group consensus, two rounds of the survey were deployed, followed by a structured and moderated face-to-face meeting including a final round of the survey. An expert panel of 13 eye care specialists (Ophthalmologists, Optometrists, General Practitioners) was recruited. The survey incorporated 33 criteria (18 clinical, 10 quality of life, 5 panelist-suggested). After each survey, panelists were provided their own ratings and the group median for each item. Those whose ratings differed from the median by greater than one point were asked to provide rationale. Items where consensus, defined as IQR of less than 2, was not reached were discussed at the face-to-face meeting. The meeting was essential in clarifying definitions for all criteria and ensuring consistent interpretation of instructions. Participants were able to share opinions reciprocally and follow-up on the thoughts of others. The facilitator ensured structured open discussion. Following the face-to-face meeting, consensus was reached on all items. A modified Delphi process was successfully employed to adapt a cataract surgery measurement instrument. The face-to-face meeting was essential to ensure shared understanding and clarity of purpose. It would be helpful to have a teleconference with panelists prior to the first survey to establish understanding of purpose, terminology and instructions.

Co-Author(s): Bronwyn Thompson, Morgan Lim, Elizabeth Mansfield, Marvilyn Palaganas, Robert Reid, Devesh Varma, Dean Smith, Sherman Quan, Iqbal Ahmed, Chelsea D'Silva

Constructing Mental Illness: Comparing Perspectives on Mental Health, Illness, and Depression by Muslim Leaders with those found in Consumer Health Materials

Presented by: **Selma Tobah**, Ph.D Student, University of Western Ontario

The purpose of this research project was to investigate the information landscape with respect to mental health, mental illness, and depression as it might be encountered by Muslim immigrants in a mid-size Ontario city. Pamphlets concerning mental health and depression, intended for the lay public, were collected from several health and social service centres that provide services to immigrants. As well, semi-structured interviews were conducted with eight Muslim religious leaders about their understandings of mental health and depression, particularly as they relate to immigrants to Canada. 'Muslim leaders' was defined as Imams (congregational leaders) as well as those that led religious study circles in the Muslim institutions in the city. This allowed for the participation of both men and women. Using a constructivist paradigm, a discourse analysis was conducted on each of the 'texts' (pamphlets and interview transcripts) using a pre-structured template. Overall, the study indicates that the pamphlets clearly reflect a primarily medicalized construction of mental illness and depression. While recognizing the possible necessity for medical intervention to deal with mental health problems, the religious leaders emphasized the significance of overcoming social isolation, especially for those who are immigrants. They described religion as assisting in maintaining good mental health but did not connect a lack of religious practice with mental illness or depression. Religious leaders were aware of their lack of medical knowledge, weary of using the term 'counselling' to define their role. They expressed what they saw as their own limitations and boundaries, while describing their role as actively listening and finding ways to be of support to the individual requesting help. This included connecting to a counsellor or medical referral. The results possibly position Muslim leaders as mediators or intermediaries by either contextualizing or simply transferring information for congregants. Furthermore, the lack of discussion on spirituality in the pamphlets demonstrates a possible further bridge in the public discourse for connections to religious centres, where individuals may seek assistance for mental health issues.

Co-Author(s): Selma Tobah

Building Better Linkages between Primary Care and Community-Based Health and Social Services for Healthy Ageing

Presented by: **Ruta Valaitis**, Associate Professor; Dorothy C. Hall Chair in Primary Health Care Nursing, McMaster University

Little is known about primary care (PC) and community-based health and social services (CBHSS) integration for healthy ageing. This study examined: PC and CBHSS providers' perceptions of older adults' health and social needs and barriers to access services; the nature of PC/CBHSS relationships; and strategies to facilitate PC/CBHSS integration. This qualitative descriptive study involved four focus groups (n=21). Two of them included primary care providers working at two McMaster Family Health Team clinics and the other two included CBHSS providers from various organizations who served older adults (e.g., housing, recreation, home care, home support, etc.). A researcher and note-taker conducted the focus groups guided by five broad questions. Focus groups were audio-taped, transcribed verbatim, inductively coded, and collapsed into major themes using NVivo. Matrix queries were conducted to explore differences in perceptions by PC and CBHSS providers. Participants explained that health and social services needs were exacerbated for community-dwelling older adults with multiple chronic conditions and a lack of social support and advocacy. Barriers to access CBHSS and PC services included: lack of, or poor care coordination; financial challenges; lack of accessible transportation; incongruent assessments among providers and older adults (self-assessments); wait times and eligibility criteria; communication and health literacy barriers; and lack of programs to address older adults' needs. With challenges, CBHSS referred older adults' to PC for medical needs and gathered information to gauge program eligibility. PC links were stronger with health services (specialty care) than with CBHSS. PC providers were frustrated by the time consuming and complex nature of CBHSS navigation. Results provide direction and strategies to strengthen PC/CBHSS integration to support older adults including: use a patient-centred approach; employ effective PC/CBHSS communication strategies; apply effective case coordination; build PC/CBHSS trust; advocate for improved program access for older adults; and adapt services/programs to address access barriers and meet older adults' needs.

Co-Author(s): Ruta Valaitis, Laura Cleghorn, Jenny Ploeg, Lisa Dolovich, Doug Oliver, Cathy Risdon, Gina Agarwal, Derelie (Dee) Mangin, Jessica Peter, Harjit Chung

Learning from Different Worlds: innovative mixed-methods research design for studying dementia care initiatives.

Presented by: **Nadia Sourial**, PhD Student, Department of Family Medicine, McGill University

Our pan-Canadian research group is studying the implementation of different primary care-based initiatives in dementia care across Canada. Identifying key success factors across provincial-wide, top-down as well as grassroots, bottom-up approaches, in diverse primary care organizations, requires an innovative mixed methods design. To ensure effective dissemination of study results and maximize research impact, this study involved stakeholder engagement and an integrated knowledge translation plan. Stakeholders include clinicians, patients, caregivers, health care managers, and local and provincial decision-makers. Due to their contributions to the development of the study objectives, design and methodology, stakeholders will receive additional benefits from the study results, for example, data emerging from the study may serve as a baseline for quality improvement initiatives. The knowledge translation plan includes regular feedback to research sites to support change management and a series of events with national and international partners and experts. The research program is comprised of two convergent streams, where complementary quantitative and qualitative methods cross-fertilize each other. The program will be conducted in 28 primary care organizations across Quebec, Ontario and New Brunswick. The first stream is an observational cross-sectional study using chart reviews together with clinician and organizational survey data to assess quality of care, clinicians' attitudes, knowledge and practices as well as organizational characteristics. The second stream uses multiple case-study design involving interviews and document analysis to assess the implementation process. During the integration phase, a full data dossier will be developed for each site which uses the quantitative and qualitative data to build a matrix across which conclusions can be drawn on key clinical and organizational factors impacting successful initiatives. This project requires the integration of data from multiple sources and across different sites in a way that maintains their rich context. The innovative methods developed by our stakeholders and research team members allow for results that create and empower transformative change in dementia care.

Co-Author(s): Isabelle Vedel, Carrie McAiney, Yves Couturier, Susan Bronskill, Genevieve Arsenault-Lapierre, Nadia Sourial, Claire Godard-Sebillotte, Rachel Simmons, Paula Rochon, Erin Strumpf, Sarah Pakzad, Howard Bergman

Enabling Problem-Solving Capacity through Leadership Development: Findings of an Embedded Multi-Case Study Approach to Understanding Leadership Development Across Canada

Presented by: **Silvia Vilches**, Assistant Professor / Extension Specialist, Auburn University

The health care system is challenged to support innovation within systems of accountability. Findings of a two year study of the implementation of the LEADs leadership framework demonstrate personal and networked growth. The study also demonstrates how to use an embedded multi-case approach to understanding health care systems. Following Yin (2014) an embedded multi-case approach was used. This allows within- and between-case study analysis of qualitative interviews and focus groups with various levels of leaders (n=7 to 29 within each organization) as well as learning about individual development across all the cases (n=76). Five organizations with longer trajectories of LEADS implementation were approached to share their succsses. This exploratory study confirms anecdotal and personal information about the impacts of successful leadeship development and lays the groundwork for future studies which should delineate outcomes frameworks. The results show a variety of systemic level impacts as well as individual capacity development. At the individual level, people expressed a greater capacity to identify challenges and act on them. In addition to personal capacity (skills, knowledge, reflection), organizational endorsement LEADS offered a common language that made the rationale for actions transparent and acceptable in the organizational environment. The development process encouraged network formation, and informal connections empowered individuals to resolve challenges by drawing on sources. Third, ongoing supports were available. Challenges included lack of time to implement plans or to reflect on practice, and in some cases, lack of transparency around next steps. Human resource staff faced barriers in proving accountability, suggesting room for improvement in documentation The LEADS framework was shown to be effective, flexible and scaleable. Leadership development was shown to be individually relevant and valuable, with demonstrable outcomes wihtin a range of types of positions. More study needs to be focused on appropriate outcome documentation so that value is more widely understood.

Co-Author(s): Silvia Vilches

Health Need, Economics And Funding Of Paediatric Insulin Pump Therapy Use: A Scoping Study

Presented by: **Sanja Visekruna**, PhD candidate, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto

The purpose of this scoping study was to explore the breadth of existing Canadian health policies in place subsidizing the costs of insulin pump therapy (IPT) for youth with type 1 (T1) diabetes, and the impact of this health technology (i.e., clinical, psychosocial, financial) on this population. Using Arksey and O'Malley's (2005) framework, four research questions were defined and guided search of the literature. Relevant studies and grey literature were retrieved from six electronic databases (e.g., Medline, CINAHL, PAIS International, ABI/INFORM Global, Business Source Premier, and Scopus) and websites. Literature were scanned for relevancy and selected based on inclusion/exclusion criteria. A narrative and synthesis of the literature shaped the developed of five overarching themes. To appraise the literature quality as well as validate the themes and findings, select study data was extracted into tables. Consultations with relevant stakeholders also informed the study findings. Insulin pump therapy can benefit youth with T1 diabetes (i.e., blood glucose levels, health-related quality of life) and their families (i.e., less stress/worry, easier diabetes management), although this therapy is expensive. The Ontario Ministry of Health and Long-Term Care Assistive Devices Program (ADP) subsidizes the costs of IPT for eligible children, adolescents and adults with T1 diabetes. The ADP, however, does not cover 25% of IPT expenses, or the costs of continuous glucose monitoring, an advancing diabetes health technology. Socioeconomic and economic considerations related to these health technologies will be presented and discussed relative to existing provincial/territorial funding available for these technologies. Ongoing Doctoral evaluation research addressing a literature gap will also be discussed. Provincial/territorial funding is important to support the health needs of youth with T1 diabetes. Socioeconomic differences related to IPT use and clinical outcomes exist in this population, thus evaluation research is pivotal to examine potential access issues and funding adequacy relative to this population's health needs.

Co-Author(s): Sanja Visekruna, Linda McGillis Hall, Monica Parry, Karen Spalding

How does relational continuity differ in primary and secondary care? A qualitative study of perceptions of users of the Catalan national health system

Presented by: **Sina Waibel**, Post-doctoral researcher, Centre for Health Services and Policy Research, University of British Columbia

To analyse the differences in perceptions of relational continuity with the primary and secondary care physicians and its influencing factors from the viewpoint of users of the Catalan national health system (Spain). An interpretative qualitative study was conducted with a two-stage theoretical sample; (i) the study contexts: three healthcare areas in Catalonia with different management models of primary and secondary care services; (ii) users 18 years or older who had been attended to at both care levels for the same health problem. Data were collected by means of individual semi-structured interviews (n=49), which were audio recorded and transcribed. A thematic content analysis was conducted segmented by study area with a mixed generation of categories and triangulation of analysts. Patients across the areas studied generally perceived consistency of primary care physicians (PCP) – described by usually being seen by the same physician over longer periods of time and only in rare occasions by locum physicians – whereas some inconsistencies of specialists were indicated. Patients who perceived consistency and frequency of visits described having established an ongoing relationship characterised by trust and mutual accumulated knowledge. The ascription to a PCP, a health system related factor, facilitated relational continuity with PCP. Different organizational factors, e.g. the appointment making system, favoured consistency; whilst the re-organization of patient adscription distracted from it. Physician-related factors (medical practice, patient-physician communication, attitude and commitment to care) mostly coincided in both care levels and fostered the development of an ongoing relationship. Perceptions of consistency of personnel seem to differ depending on the care level but are similar regarding the development of an ongoing relationship. The system-related factor (gatekeeper system) favours relational continuity with PCP, whereas organizational and physician-related factors seem to be applicable to both care levels.

Co-Author(s): Sina Waibel, Ingrid Vargas, María Luisa Vázquez

Predictors of Having First Child Apprehended at Birth: A Population-Based Longitudinal Study
Presented by: **Elizabeth Wall-Wieler**, PhD Student, University of Manitoba
This study links events and diagnoses in the two years before childbirth to identify women who may be at higher risk for having their first child apprehended at birth. A cohort of women whose first child was born in Manitoba between April 1, 1998 and February 28th, 2015 and lived in Manitoba at least two years before the birth of her first child (n = 53,565) was used. A logistic regression model determined the adjusted odds ratios (AORs) of having a child apprehended at birth. Several time-varying covariates (diagnoses of substance abuse, and mood and anxiety disorders, involvement with the criminal justice system, receiving Employment and Income Assistance, and residential mobility) are examined in two time periods in the two years before the birth – during pregnancy and pre-pregnancy. Characteristics producing the greatest odd of apprehension at birth are substance abuse in both time periods (AOR = 10.25), disability (AOR = 6.56), schizophrenia (AOR = 6.29), not having had any prenatal care (AOR = 5.28), being a teenage mother (AOR = 4.29), and involvement with the criminal justice system in both time periods (AOR = 4.21). When examining criminal justice involvement during pregnancy, those involved as the accused (AOR = 2.93) and as victims (AOR = 2.37) had the greatest odds of apprehension. For all variables examined in the two time-periods, sustained exposure produced the greatest odds of apprehension. Covariates included in the adjusted model produced great discrimination (C-Statistic = 0.912). Most characteristics of women deemed to be at high risk for having their child apprehended at birth are modifiable or could be mitigated with appropriate services. Allowing the attachment of mother and child in the critical first year of life increases the likelihood of a better long-term mother-child relationship.
Co-Author(s): Elizabeth Wall-Wieler, Leslie Roos, Nathan Nickel, Marni Brownell, Dan Chateau, Kendra Nixon

Validation of Primary Care Assessment Tool-Tibetan version: an advanced psychometric analysis
Presented by: **Wenhua Wang**, Postdoctoral fellow, Department of Family Medicine, McGill University
Valid measurement tools are needed to measure patient experience as feature of highly performing health systems. The Primary Care Assessment Tool (PCAT) has been used extensively in many countries to evaluate primary health care. This study aimed to examine the psychometric properties of PCAT-Tibetan version through advanced psychometric analysis. This was a further analysis of the initial PCAT-Tibet validation study that was conducted of using a previous database including 1386 patients who visited their primary care providers in Tibet in 2013. The initial PCAT-Tibetan version included eight domains and 37 items. First, exploratory and confirmatory factor analysis examined fit to the theoretically underlying structure of primary care. Then, Item response theory analysis evaluates how well questions and individual response options perform at different levels of patient experience. Finally, multiple linear regression modeling was used to examine the association between each domain and patient satisfaction. A shorter PCAT-Tibetan version was finally developed, including six domains and 25 items: First Contact (four items), Ongoing Care (five items), Coordination (four items), Comprehensiveness (four items), Family Centeredness (four items), Community Orientation (four items). The theoretical structure of primary care domains fitted well with the empirical results in Tibet in total. However, extreme favorable response option ("4=definitely") was overwhelmingly endorsed for most items. Domains correlated well and were good predictors of patient satisfaction. Ongoing Care domain had the strongest relationship with patient satisfaction among all domains. The 25 items PCAT-Tibet version is a valid instrument that can be used to monitor and evaluate primary care performance in Tibet. Continuity of care should be a priority in local primary care system building.
Co-Author(s): Wenhua Wang, Jeannie Haggerty

Medications Prescribed, Stopped and Modified at Hospital Discharge and Filled Medications in the Community: Predictors of Failure to Follow in-Hospital Medication Changes 30-days Post Hospital Discharge in Patients with Multiple Chronic Conditions
Presented by: **Daniala Weir**, PhD Candidate, McGilll University
To determine which factors are associated with failure to follow changes made to patient drug regimens during hospitalization in the 30-day period post discharge for patients admitted at two urban, tertiary care academic hospitals in Montreal, Quebec between October 2014 and May 2016 with at least two chronic conditions This study was restricted to solid, oral medications covered under the provincial drug plan. Failure to follow medication changes was measured by comparing patient discharge prescriptions (from the patient chart) to medications filled in community 30-days post-discharge (via dispensing data). Failure to follow changes made in-hospital included i) community medications that were stopped in-hospital and filled post-discharge, ii) community medications that were modified in-hospital but not filled according to the modified daily-dose, and iii) new medications which were not filled post-discharge. Poisson regression was used to determine characteristics associated with the total number of change failures Among the 872 included patients, mean age was 72 (SD 13) and 37% were female. Patients had a median of 9 (IQR: 7-11) changes made to their drug regimens during hospitalization. 383 (44%) patients followed all changes made to their medications while 261 (30%) patients had one failure, 113 (13%) had two and 115 (13%) had 3+ failures post discharge. The most important predictors of the number of failures a patient had included sex, and the average out of pocket cost for the discharge prescription; females had a failure rate that was 20% higher than males (IRR:1.20, 95% CI: 1.05-1.36), and each additional $25 increase in out of pocket costs was associated with a 13% higher failure rate (IRR: 1.13, 95% CI: 1.07-1.19). Most patients did not follow all of the medication changes that were made during hospitalization in the 30-day post discharge period. Policy related to the extent to which patients with multiple chronic conditions are required to pay out of pocket for their medications should be considered to improve adherence.
Co-Author(s): Daniala Weir, Aude Motulsky, Robyn Tamblyn

What Patients Value about Team-Based Primary Care
Presented by: **Martha MacLeod**, Northern Health-UNBC Knowledge Mobilization Research Chair, University of Northern British Columbia
Attention to patient satisfaction with team-based primary care is increasing, however the particular aspects of care that are of value to patients tends to be overlooked. This presentation offers a nuanced analysis of patient perspectives and experiences with interprofessional teams in relation to the delivery and timing of care. This study examined practices of connection between primary care providers, interprofessional team members, and patients. Data were collected during early implementation of a non-co-located Primary Care Home model of team-based primary care in British Columbia. Data include observation of 37 patient-clinician interactions, seven patient interviews and 16 interviews with primary care providers and interprofessional team members. The interpretive analysis surfaced specific practices of interprofessional team members that reflect how team-based care can be offered in a manner that improves patient experiences. This approach draws attention to some unanticipated benefits that are of value to patients engaged with an interprofessional team. In early stages of implementation of interprofessional primary care teams, patients value aspects of team-based care that reflect attributes of patient-centredness and coordination. Four situations are described to illuminate practices of team-based care that patients report are of value. Within these situations, attention is directed towards understanding how practices of communication and information sharing that occur between team members and with patients can influence patient experience. How and when interprofessional team members are first connected with patients, and how they engage with patients over time have both anticipated and unanticipated benefits. The unanticipated benefits are discussed in light of how timing and delivery of team-based care might be improved within a primary care home model. Patient-perceived benefits of team-based primary care are more nuanced than generally found in the research literature. Attention to patient experiences is necessary to improve the design and delivery of care when making decisions about who needs an interprofessional team, or the timing of involvement of one or more team members.
Co-Author(s): Erin Wilson, Martha MacLeod

Primary care and health inequality: Natural experiment comparing England and Ontario
Presented by: **Walter Wodchis**, Associate Professor, University of Toronto
It is not known whether equity-oriented primary care reforms can reduce health inequalities within high-income settings that have pre-existing universal healthcare. We compared longitudinal health inequality trends between England (which implemented a package of equity-oriented primary care reforms through the mid-to-late 2000s) compared to Ontario (where reforms were not equity-focused). We analysed whole-population data from 2004/5 to 2011/12 on 32,482 neighbourhoods (with mean population size of approximately 1,500 people) in England, and 18,961 neighbourhoods (with mean population size of approximately 700 people) in Ontario. We examined trends in mortality amenable to healthcare by decile groups of neighbourhood deprivation within each jurisdiction. We used linear models to estimate absolute and relative gaps in amenable mortality between most and least deprived groups, considering the gradient between these extremes, and evaluated difference-in-difference comparisons between the two jurisdictions. Inequality trends were comparable in both jurisdictions from 2004-6 but diverged from 2007-11. Compared with Ontario, the absolute gap in amenable mortality in England fell between 2004-6 and 2007-11 by 19.8 per 100,000 population (95% CI: 4.8 to 34.9); and the relative gap in amenable mortality fell by 10 percentage points (95% CI: 1 to 19). The biggest divergence occurred in the most deprived decile neighbourhoods. In comparison to Ontario, England succeeded in reducing absolute socioeconomic gaps in mortality amenable to healthcare, and prevented them from growing in relative terms. Equity-oriented primary care reform in England may have helped to reduce socioeconomic inequality in health.
Co-Author(s): Richard Cookson, Luke Mondor, Miqdad Asaria, Dionne Kringos, Niek Klazinga, Walter Wodchis

Identifying frailty to support policy and care using administrative and electronic medical record data.
Presented by: **Sabrina Wong**, Professor, UBC
This study aims to identify frail patients seen in primary care using administrative and electronic medical record (EMR) data. This presentation describes the processes used to derive an algorithm of frailty in community dwelling seniors through administrative and EMR data. Using multiple methods and cross-jurisdictional (BC, AB, MB) approach, we developed an algorithm for use with administrative data (2006-2012) to identify frailty. We used linked data including physician claims, hospitalizations, and prescription medications. We examined health care use and costs in those who were identified as frail compared to those with no chronic conditions or associated events indicating medical complexity (i.e. healthy). We developed an algorithm for use with EMR data based on abnormal laboratory values, age, 10+ visits in 12 months, and multiple morbidities. Clinician input was sought to develop the EMR algorithm. Many operational definitions for frailty exist. These vary in terms of the nature and number of components included in the definitions. A modified definition of frailty (in the administrative data) was developed based on the BC Ministry of Health definition that focuses on three decision rules: (1) resident in a long-term care or assisted living facility; (2) terminally ill; and (3) at least two indices from the Edmonton Frail Scale. About 3% of BC's population was identified as frail; they had a mean age of 81 years and an average of 4.6 chronic conditions. Mean total days in hospital for frail persons was 6.5, compared to 0.2 days for healthy patients. By the conference date, we will have results to report on the EMR algorithm. The study identifies frailty algorithms that could be used with BC, AB, and MB data and EMR data. Identification of frailty could be of use for health services planning and delivery of primary and community services.
Co-Author(s): Sabrina Wong, Tyler Williamson, Alan Katz, Kimberlyn McGrail, Olena Schell

Outcome differences of delayed Medical Emergency Team Activation for hospitalized patients with Sudden Clinical Deterioration

Presented by: **guosong wu**, PhD candidate, University of calgary

Medical Emergency Team activation could be delayed due to multiple calls take place in a short period, and the patient healthcare outcomes may vary. The purpose of this retrospective cohort study was to focus on the outcome differences of simultaneous call inpatients with Sudden Clinical Deterioration and MET Activation. This study identified hospitalized adult patients who had experienced a SCD and an activation of MET recorded by the Rapid response system (RRS) in Calgary, Alberta, Canada from January 1st, 2007 to December 31st, 2009. Four databases include MET database, ICU database, Discharge Abstract Database and Hospital Electronic Medical Records were linked in this study. We compared ICU Admission within 2 hours of MET Activation; Change in Patient Goal of Care (resuscitative, medical, and comfort) and in-hospital mortality in Generalized Estimating Equations (GEE) model adjusted for patient, physician and hospital factors, leveraging administrative and clinical databases. There are totally 3494 patients in this study (3.19 MET activation per day). As defined in this study, 190 (5.44%) cases were identified as simultaneous call patients. The median of overlap time of MET activation is 12 minutes. The median age of study population was 72 years, with interquartile range (IQR) 57-81 years, 46.16% patients had one or more comorbidities. In multivariable-adjusted analyses, the simultaneous first call patient had lower odds [OR=0.55, 95%CI (0.3-0.85)] of ICU admission and a higher odds [OR=2.08, 95%CI (1.17-3.7)] of change in Patient Goal of Care after MET activation compared to the second call patient, though this seems not associated with in-hospital mortality [OR=0.88, 95%CI (0.54,1.43)]. In this population-based study, we detected a strong association between delayed MET activation and ICU admission and change in Patient Goal of Care among hospitalized patients with SCD and MET activation, though the delay may not associated with in-hospital mortality.

Co-Author(s): guosong wu, Tom Stelfox, Hude Quan

The Association of Patient Safety Culture with Hospital Safety Performance: A Cross-sectional Survey

Presented by: **guosong wu**, PhD candidate, University of calgary

Patient safety culture (PSC) may have an impact on hospital safety performance. The association is barely discussed in the literature. The aim of this study is to establish the association between patient safety culture and hospital safety performance. A convenient sample of five tertiary general hospitals in Harbin, China, with more than 1000 beds respectively, evolved in this onsite cross-sectional survey. We measured 12 dimensions of Hospital Survey on Patient Safety Culture, 2 dimensions of safety behavior and 5 dimensions of hospital safety performance among 507 doctors and nurses using a previously validated self-evaluation questionnaire. The positive response rate and Cronbach's alpha was calculated to assess the quality of this investigation. Logistic regression model was utilized to examine the association between dimensions of patient safety culture and hospital safety performance. The internal consistency of this study was evaluated by Cronbach's alpha=0.94, with a survey positive response rate 60%. In our final logistic models, after controlling for the physician/nurse factors (age, gender, education background, working hours/week and healthcare working experience in years), we detected a higher level of safety training resulted in a significant increase in the odds of teamwork across hospital units (OR=2.63, 95%CI [1.59-4.35]), also a significantly associated between safety event report procedure and participation behavior (OR=2.2, 95%CI [1.28-3.77]). This study indicated a positive association between patient safety culture and safety hospital performance, which suggested the need for improvement in teamwork across hospital units, handoffs and transitions, participation/compliancy behaviour to produce high patient safety performance.

Co-Author(s): guosong wu, Jingfu Mao

A consistent approach for measuring the impact of Communities of Practice

Presented by: **Nicole Yada**, Quality Improvement Community Management Specialist, Health Quality Ontario

Communities of practice (CoPs) help generate knowledge and can support a culture of quality improvement in care delivery. However, a standard approach for monitoring CoPs in health care does not exist. This work aims to define a consistent measurement approach for demonstrating the impact of a CoP. To guide the selection of metrics for ongoing monitoring, we developed a framework that incorporates the necessary dimensions for fostering a knowledge-generating CoP with the concept of a community life cycle. We translated the knowledge-generation process into four dimensions: collaboration includes two-way exchange of information; connection captures relationship-building and an overall sense of community; content refers to static knowledge objects; and value is the community member's satisfaction with and perceived relevance of the community. In this life cycle, communities follow the stages of inception, establishment, maturity, and mitosis, based on levels of growth, activity, and sense of community. We applied the framework to four existing CoPs supported by Health Quality Ontario. Selected evaluation metrics include number of replies in a discussion forum to assess collaboration, counting items in a document library for content, and analyzing repeat attendance at events for value. The strength of connection between members was not explicitly captured, but could be assessed in the future by recording the frequency of supportive language used. Overall, attempts to apply the framework revealed gaps in data collection, particularly for the connection dimension; as a result, we could not always accurately assess a community's impact. For CoPs being planned, opportunity exists to create a holistic measurement plan from the outset to support their potential for continuous knowledge generation. CoPs support quality improvement by facilitating knowledge transfer and generation. To realize these benefits, we have developed a consistent approach to monitoring CoPs throughout their life cycles. This approach is being used across Health Quality Ontario's CoPs to identify opportunities for improvement and to optimize knowledge-building capacity.

Co-Author(s): Nicole Yada, Renée Desjardins, Ivan Yuen

A Mixed Methods Process Evaluation of an Opt-In Physician Enrolment Model for Physician-Linked Correspondence

Presented by: **Monica Yu**, Senior Research Associate, Cancer Care Ontario

To improve cancer screening participation, physician-linked correspondence (PLC) was expanded in Ontario's colorectal cancer screening program (ColonCancerCheck) in 2016. Physicians enrolled in PLC have their names included in their patients' cancer screening letters. The objectives are to evaluate the success of physician recruitment for PLC and understand barriers to enrolment. All Ontario physicians practicing in Patient Enrolment Models (PEM) were invited to enrol in PLC. A mixed methods evaluation approach was used. Descriptive characteristics of physicians enrolled in PLC were reported. Associations between PLC enrolment and physician characteristics such as sex, LHIN, previous cancer screening rates, practice volumes, PEM type, and use of the Screening Activity Report (SAR) were evaluated using logistic regressions. Analyses were done separately for physicians who participated in a 2009 PLC pilot and those who did not. A sub-set of unenrolled physicians were selected to participate in semi-structured interviews to understand underlying barriers to PLC enrolment. A total of 8,400 physicians (971 pilot; 7,429 non-pilot) were invited to enrol in PLC between November 2015 and February 2016. As of August 2016, 518 (53%) pilot and 2,731 (37%) non-pilot physicians were enrolled in PLC, for a total of 3,249 (39%) physicians enrolled. Among non-pilot physicians, female sex, higher fecal occult blood test and mammogram screening rates, higher practice volumes and more frequent use of the SAR were significantly associated with increased PLC enrolment. Among pilot physicians, more frequent SAR use was associated with increased enrolment, while higher practice volumes were associated with decreased enrolment. Several themes emerged from physician interviews, including overall positive attitudes towards PLC, low reach as the main barrier to enrolment and a need to improve communication strategies. This process evaluation highlighted opportunities to continue to improve enrolment in PLC and a need for more effective communication strategies with primary care physicians. Important factors that influence physicians' likelihood to enrol were also identified. Findings from this evaluation will inform the design and implementation of future physician engagement efforts.

Co-Author(s): Monica Yu, Leigh Jonah, Diego Llovet, Shama Umar, Nicki Cunningham, Bronwen McCurdy, Meghan J. Walker, Emily Tsoa, Jill Tinmouth

Home care clients with a stroke diagnosis in Ontario have increased limitations with communication and ADLs

Presented by: **Michael Zoratti**, PhD Student, McMaster University

To develop a comprehensive profile of community-dwelling stroke clients receiving home care services. The profile will describe clients with respect to demographic and clinical characteristics, as well as functional performance, cognitive performance, and social engagement. The profile will be described comparing clients with a history of stroke to those without. Data were sourced from clients, aged 65+, who received a routine assessment from 2007-2012 using the Resident Assessment Instrument for Home Care (RAI-HC) in Ontario. The RAI-HC contains a number of embedded health index scales, including the Activities of Daily Living Self-Performance Hierarchy Scale, Cognitive Performance Scale, and the Depression Rating Scale. With outcomes dichotomized, the impact a history of stroke has on health status was assessed through a series of logistic regression models, each adjusted for age, sex, and number of comorbidities (< 3 or ?3). A conservative odds ratio of 1.5 was considered to be clinically meaningful. Population-level data for 319 694 clients were analyzed, including 56 909 with a stroke diagnosis. In the general home care population, 62% of clients had diagnoses of three or more chronic conditions compared with 86% of stroke clients. The most common comorbidities for stroke clients included hypertension, arthritis, coronary heart disease, and diabetes. Clients with a history of stroke were at higher risk of presenting with difficulty in both expressive and receptive communication, locomotion, and bowel and bladder continence. These clients also were found to have higher (i.e., less favourable) scores on scales assessing activities of daily living and cognitive performance. Though statistically significant (p < 0 .05), stroke survivors were not found to have clinically meaningful higher scores on the Depression Rating Scale. Clients with a history of stroke were found to have more limitations with respect to communication, locomotion, and activities of daily living. Our findings align with the literature. This work highlights the specific needs of this client population and may be used by clinicians to tailor programs to these individuals.

Co-Author(s): Michael Zoratti, Kathryn A. Fisher, Dawn Guthrie, Christopher Patterson, Lauren Griffith

Building Capacity to Improve & Sustain Antimicrobial Stewardship Programs in ICUs

Presented by: **Michelle Zahradnik**, Research Coordinator, St Michael's Hospital

Athough evidence on the benefits of Antimicrobial Stewardship Programs (ASPs) exists, less is known about what components, factors, and conditions influence the sustainability of ASPs. In response, a Quality Improvement (QI) strategy with integrated sustainability planning was developed to improve and sustain optimal antimicrobial use. An intervention (referred to as ASP-SUSTAIN) was developed that focused on sustainability using the HQO sustainability planner and iterative plan-do-study-act (PDSA) cycles. Four teams from different hospital Intensive Care Units (ICUs) participated in ASP-SUSTAIN. ASP-SUSTAIN involved a series of five learning modules delivered in an interactive, networked Communities-of-Practice model. Each team implemented a project with the guidance of a mentor that focused on optimizing antimicrobial use in the ICU setting. A qualitative research design with content analysis was employed involving 6 focus groups (2 at six months and 4 following the completion of the program) with the participating teams. The following themes emerged from the focus group dataset of 25 participants – benefits of participating in ASP-SUSTAIN include: keeping on track and moving forward; hearing from others and brainstorming with team; and identifying areas for improvement. In terms of sustainability the following themes emerged: getting leadership and local stakeholder engagement and buy-in; making it a routine practice; and having a ripple effect. The following challenges were identified by participants: not being able to leverage information technology (IT); lack of physician engagement; having a short time frame for project completion; and lack of clarity on ASP-SUSTAIN expectations. Three key recommendations also emerged and include: understanding the nature of the program/commitment; having resources to collect data and IT solutions; and having more background on QI. Study findings add to the evolving body of knowledge around the benefits of engaging clinicians and staff in an integrated QI sustainability strategy and the components, factors, and conditions that influence application of QI into practice, and the sustainability of QI projects aimed at optimizing antimicrobial stewardship.

Co-Author(s): Michelle Zahradnik, Lianne Jeffs, Andrew Morris , Yoshiko Nakamachi, Marilyn Steinberg, Saul Kruger, Chaim Bell, Madelyn Law

Day 2: Thursday, May 25 / Jour 2: Le jeudi 25 mai
Presentations are listed in the language in which they will be presented
Les exposés seront inscrits au programme dans la langue de leur presentation

Poster Presentations

THE CHALLENGES OF IMPLEMENTING ADVANCED ACCESS IN FAMILY MEDICINE TEACHING UNITS IN QUEBEC. DO PROMISING STRATEGIES TO OVERCOME SUCH CHALLENGES EXIST?
Presented by: **Sabina Abou Malham**, Postdoctoral researcher, Universite de Sherbrooke
Advanced access offers benefits for providers, patients and the healthcare system. However, implementing this model in teaching units has its own challenges. Our objective is to outline the perceived challenges encountered while implementing this model in family medicine units with a teaching mission and the potential strategies to address them. This article builds on: 1) a multiple case study research, and 2) academic workshop discussions during annual family medicine departmental assembly. Data were collected from two sources: 1) semi-structured interviews (N=40) held with healthcare professionals and clerical staff involved in the implementation of advanced access in 4 family medicine units in Quebec; 2) workshop discussion groups, reflection and insights from current practice of a various number of residents and experienced family physicians who have encountered and overcame challenges while implementing this innovation in their academic teaching units. A thematic approach was used for the analysis. Four categories of challenges were reported: 1) managing the residents' patient population (assignment, patient roster size and distribution of complex cases according to their pedagogical needs); 2) managing and balancing the office appointment schedule; 3) resident availability and continuity of care; 4) availability of nursing staff Despites challenges, promising strategies were suggested: introducing this model in family medicine programs and clinical training; proactive and extensive patient and providers' education; definition of the residents practice population, adoption of a team-based care (creating joint practice models with nurses, a small team configuration), establishing formal contingency plans for residents' absence (pairing with residents to cover for each other, with nurses), promoting a culture that values responding to patient's needs, engaging residents in the implementation process. Our findings have significant implications for decision makers, managers and healthcare providers. They may help to identify what challenges to consider while implementing advanced access in academic teaching units; and to offer more proactive solutions for other teaching units planning to implement the advanced access model for residents.
Co-Author(s): Sabina Abou Malham, Mylaine Breton, Nassera Touati, Lara Maillet

What are the nutrition promotion practices of family physicians and nurse practitioners in regards to obesity in multidisciplinary primary care settings in Ontario?
Presented by: **Stephanie Aboueid**, Graduate student , UNIVERSITY OF OTTAWA
1) To examine when family physicians and nurse practitioners approach the topic of nutrition with patients with excess weight in multidisciplinary primary care settings and 2) to elucidate the facilitators and barriers of approaching the topic of nutrition in regards to obesity management. We used a qualitative research design to provide an in-depth understanding of current nutrition promotion practices. Fifteen one-on-one semi-structured interviews were conducted with family physicians (n=5) and nurse practitioners (n=10) working in various multidisciplinary primary care settings (family health teams, community health centres, nurse practitioner-led clinics) in Ontario. The interviews were 30 to 60 minutes in length. All interviews were audiotaped, transcribed and analyzed using NVivo software. Inductive and deductive codes were used for data analysis. Two researchers coded the transcripts independently and assessed intercoder reliability. Discrepancies were resolved by consulting the research team. Nutrition seemed to be discussed with patients when they: 1) bring it up, 2) come for physicals, 2) are diagnosed with a chronic disease, 4) are at-risk of developing a chronic disease, and 5) are obese. The facilitators were: 1) trusting relationship with the patient, 2) having a dietitian on site as it provides the practitioner with a cost-free referral after the discussion, 3) flagging system and template prompting to talk about nutrition, 4) comfort level of practitioner, 5) family support, 6) financial incentives, and 7) having a patient roster. The barriers were: 1) competing demands and lack of time, 2) lack of patient buy-in and readiness, 3) fear of offending patients, and 4) patients unable to afford healthier foods. Therefore, there are many barriers and facilitators that came into play in practitioners' decision of approaching the topic of nutrition in regards to obesity management. The multidisciplinary nature of these clinics seemed to allow nutrition intervention to occur prophylactically but identified barriers should be addressed to facilitate the conversation.
Co-Author(s): Stephanie Aboueid, Ivy Bourgeault, Isabelle Giroux

Exploring processes that link patients to primary care providers: The Alberta context
Presented by: **Mary Modayil**, Scientist, Alberta Health Services
Alberta Health Services (AHS) Primary Health Care (PHC) Portfolio formed three working groups for the Informing the Attachment Process project, focused on informing the processes to link patients to a regular primary care provider in Alberta. These three groups had provincial representation from groups within PHC and across five zones. 1) Used administrative data to identify and determine characteristics of patients with or without chronic disease who present to PHC provider 2) conducted an environmental scan of AHS initiatives that support linking patients to a PHC provider; and 3) assessed the literature and processes that lead patients to securing a regular PHC provider. The majority of patients without a regular provider were men (62.6%), did not have a chronic disease (94.9%), and belonged to the healthy or health care non-user status based on administrative data. The environmental scan revealed many processes both active (n=19) and passive (n=15) that facilitate linking patients to PHC. Barriers related to these processes include primary care access issues (i.e. complex patients), patient preferences (i.e. young males) and cultural norms (i.e. immigrant populations). The literature review identified five key themes related to linkage processes; patient perspectives, provider factors, characteristics of the unattached, and structural and organizational factors. Our findings dispel commonly held beliefs that those who are not linked to a PHC provider are complex patients with multiple chronic conditions. Given these results, better understanding the PHC patient population and evaluating which processes are effective for linking patients to PHC services is critical to meet the health.
Co-Author(s): Ceara Cunningham, Scott Oddie, Tanmay Patil, Shawna McGhan, Alka Patel, Mary Modayil

Primary care providers' approach to dietetic referrals for patients with obesity and factors affecting patient initiation of Medical Nutrition Therapy - A qualitative study

Presented by: **Stephanie Aboueid**, Graduate student , UNIVERSITY OF OTTAWA

1) To understand Family Physicians' (FPs) and Nurse Practitioners' (NPs) perceived influence on their patients' dietary behaviours, 2) To understand how FPs and NPs approach a dietetic referral, and 3) To elucidate enabling factors for patients initiating Medical Nutrition Therapy (MNT) for obesity management and nutrition-related chronic diseases. We interviewed 15 FPs and NPs working in various multidisciplinary clinics in Ontario. Semi-structured interviews were audiotaped, transcribed and coded using NVivo software. A thematic analysis was utilized to identify major themes. Deductive codes were used for the initial analysis while inductive codes emerged iteratively. The research team met to provide feedback on the analysis and ensure coding reliability. Additionally, member checks were available for participants who were interested in reviewing the data analysis. The member checks showed that the analysis accurately reflected what participants conveyed during the interviews. Ways of positively influencing patients with obesity to make lifestyle changes included having a rapport with the patient, leading by example, reinforcing the message, and using an evidence-based and non-threatening approach . Before suggesting a dietetic referral, participants: explained the importance of lifestyle changes (5/15), did nothing (4/15), updated laboratory and anthropometric data (3/15), or explained what to expect at the visit with the dietitian (3/15). Some reported that using a more direct approach by saying 'I want you to see the dietitian' increased initiation of MNT and that patient motivation level also affected initiation of MNT. Factors increasing motivation included patient or family member being diagnosed with a chronic medical condition, fear of taking medications (e.g.: insulin), absence of mental health issues, and younger age. Although FPs and NPs believed that their influence on their patients' dietary behaviours was moderate, explaining the importance of lifestyle changes could increase initiation of MNT. Examining patient-specific factors that might affect level of motivation was also important to consider when suggesting MNT for obesity management with a dietitian.

Co-Author(s): Stephanie Aboueid, Danielle Edmonds , Ivy Bourgeault, Isabelle Giroux

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Diagnostic Accuracy of Level IV Portable Sleep monitors Versus Polysomnography for Obstructive Sleep Apnea: A Systematic Review and Meta-Analysis

Presented by: **Lusine Abrahamyan**, Assistant Professor, Institute of Health Policy, Management and Evaluation, University of Toronto, University of Toronto

Obstructive sleep apnea (OSA) is a chronic, prevalent condition. In-laboratory, overnight Type I polysomnography (PSG) is the current 'gold standard' for diagnosing OSA. Diagnostic sleep studies can be also conducted at home with Type IV portable monitors (PM).We systematically reviewed evidence on diagnostic ability of Type IV PMs againts PSG. Methods: Participants: patients ?16 years old with symptoms suggestive of OSA. Intervention: type IV PM for diagnosing OSA. Comparator: in-laboratory PSG. Outcomes: diagnostic accuracy measures. Studies: cross-sectional, prospective observational/experimental/quasi-experimental studies. Information sources: MEDLINE and Cochrane library from January 1, 2010 to May 10, 2016. All review stages were conducted independently by two investigators. We screened 6,054 abstracts and 115 full-text articles to select 24 full-text articles for final review. These 24 studies enrolled a total of 2,068 patients with suspected OSA, and evaluated 11 different PMs with 1-6 channels. Only 7(29%) studies tested PMs in home setting. The mean difference (bias) between PSG-measured and PM-measured apnea-hypopnea index (AHI) ranged from -6.5 to 13.5 events/hour. At AHI?5 events/hour, the sensitivity of Type IV PMs varied from 67.5-100% and specificity from 25%-100%. Level IV PMs offer the potential to widen access to treatment for this underdiagnosed condition. Policy recommendations regarding PM use should consider the health and societal implications of false positive and false negative diagnoses and its cost-effectiveness.

Co-Author(s): Lusine Abrahamyan, Yeva Sahakyan, Suzanne Chung, Joanna Bielecki, Petros Pechlivanoglou , Steven Carcone, Valeria Rac, Murray Krahn

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Strategies used in the institutionalization of patient engagement in risk management.

Presented by: **Ursulla Aho-Glele**, PhD candidate, University of Montreal

The aim is to generate and share knowledge about factors, mechanisms and strategies put in place by organizational leaders that would allow patient engagement to be fully institutionalized in the health care system for the enhancement of patient safety. The project has two research designs. The first one, is a descriptive research design. A questionnaire will be sent to all health care organization's Directors (N = 22) and answered via telephone in order to index all implemented patient engagement strategies. The second research design, to address the specific objectives on why and how these best practices (strategies) emerged and are put in place, will be a longitudinal case study with interwoven levels of analysis (strategic, organization and clinical). The study will involve one case study, which have implemented strategies to engage patients in risk management. Research outcomes can be achieved within a two-year timeframe and its end-point will be marked by the issuance of tangible research outputs, including: 1- A patient engagement (PE) indicator framework for patient safety in risk management. The PE indicator framework will include indicators of PE implementation and planning, as well as PE-sensitive performance indicators and measures for PE evaluation. The PE indicator framework could be used by decision-makers to plan, implement, evaluate and improve PE in risk management in health care institutions. 2- A guide informing on mechanisms and strategies used by managers to implement and instituionalized PE will be shared. With the growth of chronic diseases incidence, and estimated costs related to incidents and accidents, risk management is still dealt with in silos. To cater to this problem, patient engagement is recognised as a key component for developing the highest quality of healthcare. In 2015, Accreditation Canada mentions PE as its core principle.

Co-Author(s): Ursulla Aho-Glele, Marie-Pascale Pomey

Leveraging Regional Feedback to Support Provincial Improvement Efforts in the Ontario Cancer System
Presented by: **Kaitlynn Almeida**, Coordinator, Regional Programs and Performance Management, Cancer Care Ontario
This study identifies contextual factors and prioritizes key themes influencing the ability of Regional Cancer Programs (RCPs) to achieve high performance on priority cancer system indicators. The results can enhance CCO's provision of support to the RCPs in order to improve performance. As part of a quarterly review of performance, CCO requires RCPs to explain the reasons for poor performance on a variety of indicators spanning the cancer journey. For this study, comments from the RCPs for the 2015-2016 fiscal year were compiled in Excel for analysis, with both qualitative thematic analysis and quantitative content analysis being conducted to identify and quantify common themes. Codes were developed inductively during the analysis and applied to the data set. High-level codes included "Capacity", "Operational Processes", "Data Reporting", "Patient Factors", and "Health Care Provider Buy-In", among others, with the frequency of each theme subsequently calculated. The results demonstrate that "Capacity" is the most common challenge encountered by the RCPs (47.5%). Health human resource (HHR), supply versus demand, and equipment or technology issues were the main contributors to these capacity challenges, with HHR difficulties contributing to nearly half (49.2%) of the capacity issues. "Operational Processes" were the second most prevalent theme, contributing to 20.7% of the issues noted by the RCPs. This includes comments on transitions between different operational processes as well as recognition of sub-optimally functioning processes. Finally, "Data Reporting" comprised 17.1% of the identified challenges, including data entry backlog, data input errors, and data quality concerns. The results of this retrospective analysis have identified key areas for CCO to focus on in order to help address common challenges across the province. This includes identifying regions with effective mitigation strategies and engaging them in a knowledge sharing forum to strengthen the quality of provincial cancer care.
Co-Author(s): Kaitlynn Almeida, Jenna Evans, Victoria Hagens, Vicky Simanovski

Evidence-based public health policy-making in Latin America: Is it possible?
Presented by: **Natasha Altin**, student, University of Toronto
Public health policy-making is a complex process, thus many professionals refrain from incorporating health research in health policy-making. This study explores cases of successful collaboration among policy makers, researchers and knowledge brokers within Latin America to identify factors that facilitate incorporation of evidence and result in evidence-based public health policies. A total of eighteen in-depth, semi-structured telephone or Skype interviews were conducted with a purposive sample of 10 decision makers, 7 researchers and 1 knowledge broker who all had effectively incorporated evidence in public health decision-making. The interviewees were purposely drawn from a sample informed by research advisors at the Pan American Health Organization. Data were analyzed thematically. The interviewees reported three distinct themes in the successful implementation of evidence-based policy: · Changing the culture of the institution to make evidence part of the "gold standard" for decision-making process · Establishing ongoing relationships and communication between researchers and policy makers · Developing applied technical units, where qualified specialists answer policy makers' questions efficiently Results from this study indicate public health policy makers may be able to better incorporate evidence in decision-making by promoting a shift at the systematic level towards evidence-based policy. This shift can be further enhanced by proper training, local capacity building and inter-institutional/inter-disciplinary collaborations. Our findings provide a first insight within Latin America into the process of successfully incorporating evidence by policy makers. We conclude that, in Latin America, it is feasible to develop the environment to support evidence-based policy-making to serve the best interests of the public.
Co-Author(s): Natasha Altin, Eleana Villanueva, Jimmy Le

Access to Vision Health Services Amongst Vulnerable Populations in Canada: A Scoping Review.
Presented by: **Afua Asare**, Graduate student, Institute of Health Policy Management and Evaluation, University of Toronto and The Hospital for Sick Children, Toronto
A scoping review was conducted to determine the nature of research activity and existing gaps in knowledge with regards to access to vision health services amongst vulnerable populations in Canada. 'Vulnerable populations' are groups at risk of poor health due to underlying differences in social status. A scoping review was conducted using the Arksey and O'Malley (2005) methodological framework. Key words were used to search five electronic databases: MEDLINE, EMBASE, SCOPUS, PAIS index, CINAHL and the grey literature. Reference lists of key articles were also searched. The search strategy yielded a total of 886 abstracts. All abstracts were reviewed by two authors for relevance. Abstracts were excluded if they were case studies, reviews, not written in English, and if full articles were inaccessible or irrelevant to the review topic. From the 35 articles that remained, data was analyzed using descriptive summary and thematic analyses. General themes identified were: epidemiology of ophthalmic conditions (19), vision care workforce and supply (2), factors associated with (and barriers to) accessing vision care (7), the efficacy of intervention programs (6) and cost effectiveness analysis of interventions for vision care (1). Based on the Behavioural Model of Health Services Use, most studies focused on individual and not contextual characteristics of populations. In terms of realized access to care, studies focused mostly on vision health outcomes (22) and less on health behaviours of vulnerable populations and care professionals (12). Ontario was the most represented province (44%). Gaps identified in the literature include a limited number of studies evaluating contextual factors and health behaviours, an absence of large, population-based studies and limited data from Eastern provinces. The access to vision care literature looks at important topics in vulnerable Canadian populations. However, more research is needed to develop a fuller understanding of vision care access to aid decision making. Future studies should address contextual attributes of access, incorporate larger population samples, and data from less populated provinces.
Co-Author(s): Afua Asare, Mayu Nishimura

MOMMY MONITOR: The development of a mobile app to reduce the adverse maternal health experiences of racialized women in Canada

Presented by: **Elsie Amoako**, student, University of Toronto

1) explore the experiences of immigrant women with prenatal care 2) determine the perceived relevance of the topics taught in generic prenatal classes to immigrant women 3) discuss the interplay between culture, perceived relevance, and use of prenatal care by these racialized women. A qualitative ethnographic study with eight in-depth one on one interviews with immigrant women from Africa, the Caribbean, and Latin America. Convenience sample from a church and a prenatal program from Unison Community Health Centre in Toronto, Ontario. The women had more than one child, but no more than four children, and were between the ages of 30-50 years old, and lived in Canada between 2 to 37 years. Interviews recorded, notes taken, and lasted from 45 minutes to 1 hour. This is Phase 1 of the study. Phase 2 is a mixed methods study which includes a survey, focus groups, &interviews. The participants acknowledged the presence of prenatal care and services being provided by the healthcare system, though the majority did not attend prenatal classes. The immigrant women discussed a need for larger social support networks during and after pregnancy, and healthcare professionals that took the initiative to understand their cultural values and needs on an individualistic level. The participants highly preferred midwifery as a form of prenatal care, and were not concerned with receiving competent care from providers, but rather relied on their personal cultural networks for that cultural sensitivity. Four final recommendations were made to provide for the enhancement of maternal care and services to reflect the needs of racialized women. The Mommy Monitor app is currently being developed in phase two of the study, to enhance surveillance, increase monitoring, increase social support and provide culturally sensitive health care.

Co-Author(s): Elsie Amoako, Aisha Lofters

"Treating COPD patients in a clinical setting: Examining the potential link between a specialized COPD treatment clinic and psychological measures"

Presented by: **Hailey Arsenault**, Masters Student, University of Prince Edward Island

The purpose of this study is to examine the effectiveness of a 12-week COPD rehabilitation program on the mental health of patients with COPD in Prince Edward Island. Specifically, this research will examine the impact of this program on participants' self-actualization, anxiety, and depression. A mixed methods study will be conducted. First, recent participants of the COPD rehabilitation program will be asked to participate in a focus group to help create a questionnaire tailored to their psychological experience with COPD and treatment. Next, a new cohort of COPD program participants will complete the questionnaire one week prior to beginning the program and again after completion (12 weeks later). It is hypothesized that: 1) In the focus group phase, three variables will be highlighted as important: anxiety, depression and self-actualization, and 2) Participation in the COPD treatment program will result in increased self-actualization, leading to decreased anxiety and depression after 12 weeks of treatment. This research will incorporate elements of patient-oriented research in order to assess the efficacy of COPD clinics on the psychological well-being of COPD patients. Further, this project has the potential to provide evidence to support specialized health services for chronic diseases in rural geographical areas.

Co-Author(s): Hailey Arsenault, William Montelpare, Emily Read

Factors Influencing Vision Care Access Amongst Aboriginal Children in Canada: A Conceptual Framework

Presented by: **Afua Asare**, Graduate student, Institute of Health Policy Management and Evaluation, University of Toronto and The Hospital for Sick Children, Toronto

Fifty-five percent of First Nations children with a health condition have vision problems. Service support for childhood vision problems is one of the most important concerns for Aboriginal communities. A conceptual framework was developed to aid the understanding of inherent issues on vision care access for researchers and policy makers. Relevant articles on the topic were generated from a literature search of five electronic databases: MEDLINE, SCOPUS, PAIS index, CINAHL, and the grey literature. Reference lists of key articles were also searched. A total of 21 articles and two reports were deemed relevant by the author and concepts were extracted and used to develop an explanatory and interactive conceptual framework. The conceptual framework was developed using specific concepts informed by the literature, including four conceptual frameworks. These frameworks were: The Theory of Planned Behaviour, the Behavioural Model of Health Services Use, the First Nations Wholistic Policy and Planning Model and the Integrated Life Course and Social Determinants Model of Aboriginal Health. The Framework developed on Vision Care Access focuses on vision care issues influencing both potential and realized access in vulnerable children living on Aboriginal reserves. It embraces community, the important holistic perspective of health (physical, spiritual, emotional and mental) and health over the life course (child, youth, adult, and elders) in Aboriginal populations. Self-determination, the most important determinant of health among Aboriginal people (as cited in the literature) was also incorporated. The Framework on Vision Care Access provides an explanatory and interactive framework to enhance understanding and aid the development of policy and research in Canada. Importance of relationship in community, holistic perspectives of health, the effects of colonialization and health over a life course were incorporated into the model.

Co-Author(s): Afua Asare

The impact of changes in education requirements on nurses' wage structure

Presented by: **Lady Bolongaita**, PhD Candidate, University of Toronto

We investigate the impact of the change in entry-level Registered Nurses' (RN) education requirement from a diploma to a baccalaureate degree in nursing on their wage structure. Our data is from a nationally-representative survey data that captures nurses working in different care sectors across Canada from 1993 to 2011. We model a two-stage least squares estimator using logged hourly wages as the dependent variable. We show the impact of the policy shift on the shifting supply of diploma and baccalaureate-prepared RNs, which are then used as explanatory variables in the wage equations. Diploma and baccalaureate-prepared RNs are modelled separately. Individual and job characteristics are used as control variables. Our preliminary findings will be presented. Insights from our study are important in understanding how nurses' wage structure have been influenced by the policy change. Taking into consideration contextual and cultural differences, our findings may be used by other jurisdictions that are deciding to change their RN education requirements.

Co-Author(s): Lady Bolongaita, Audrey Laporte, Jasmin Kantarevic, Raisa Deber, Andrea Baumann

Targeted federal transfers for mental health: Past, present, future
Presented by: **Mary Bartram**, PhD Candidate, Carleton University School of Public Policy and Administration
This presentation first situates mental health transfers in the context of fiscal federalism. Second, the 150-year history of federal mental health transfers are traced, along with implications for gaps and inequities in mental health funding. Third, current Health Accord negotiations are analysed. A mix of process tracing methodology and historical institutionalist theory are used to identify key factors which have contributed to gaps in Canada's mental health system, namely: de-centralized government, the early history of asylums, stigma, the prevalence of mental illnesses, the timing of effective treatments, and inter-professional turf. These factors are followed through the decades of health insurance and health reform debates. Data is drawn from primarily from the transcripts of federal parliamentary debates, supplemented by other sources such as royal commissions, federal/provincial/territorial conferences, political memoirs and mental health statistics. Canada's decentralized governance governance structure has been the at the root of the gaps and inequities in Canada's mental health system. Unmet needs for mental health care have just been too vast and expensive to take on, too jurisdictional thorny to take on, too politically expedient to evade, and too stigmatized to justify the use of federal spending power. With the 1957 decision to not take on the high cost of insuring services for the 40 per cent of hospital patients in mental hospitals, the federal government entrenched a gap between mental health and physical health care that has yet to be closed. While new federal funds promise to help narrow gaps in funding and services, jurisdictional issues will continue to pose serious challenges. Without significant federal support tied to clear conditions, history tell us that provincial and territorial governments will continue to be challenged in their efforts to address this fundamental disparity affecting the lives of millions of Canadians.
Co-Author(s): Mary Bartram

A Grounded Theory Study to develop an Incentive Model for Quality Care of Depression and Anxiety in Ontario Family Health Teams – Initial Findings from Phase One
Presented by: **Rachelle Ashcroft**, Assistant Professor, University of Toronto
The main objective of the study is to develop a comprehensive theoretical model that describes and links the incentives that can be leveraged by stakeholders to improve the quality of care for common mental disorders (CMDs) in interprofessional primary care teams. Led by an interdisciplinary team, this three-year qualitative study uses a constructivist grounded theory approach. The two phases of sampling are i) initial sampling and ii) theoretical sampling. Each sampling phase will include 50 individual interviews. Family Health Teams (FHTs) in Ontario, Canada, closely resemble other team-based care and "medical home" models of care. Using purposive sampling, we have completed phase one of sampling with diverse healthcare professionals within FHTs (e.g. physicians, executive directors, nurses, social workers, counsellors), community mental health providers, and policy and decisions-makers. Initial and focused coding has been conducted for 50 interviews conducted in phase one. The poster will present initial findings from the first 50 interviews obtained during the initial sampling phase. The N=50 participants included: 42 healthcare professionals from Family Health Teams, 5 community informants, and 3 policy informants. Participants represented 15 Family Health Teams and spanned across 9 Local Health Integration Networks (LHINs). Quality care dimensions being explored in this study are: technical care, access, equity, structural, person-centeredness, and efficiency. There is a range of non-financial and financial incentives and disincentives identified in the first sampling phase. Examples of incentives and disincentives that may be influencing the quality of care for CMDs include: remuneration, education, organizational culture, and referral processes. The incentive model will help guide how interprofessional primary care teams can be structured for the optimal prevention and management of CMDs. This is especially important in Ontario, where a regional strategy for primary health care resources, including the availability and role of mental health workers is being planned.
Co-Author(s): Rachelle Ashcroft, Matthew Menear, Simone Dahrouge, José Silveira, Jocelyn Booton, Kwame McKenzie

Association between nursing staff policies regarding levels of education and experience and the risk of nursing sensitive outcomes for patient in acute care hospitals
Presented by: **Li-Anne Audet**, Student , University of Sherbrooke
Recent studies have suggested an association between several nurse staffing policies and the occurrence of adverse patient outcomes in acute care hospitals. This study aims to summarize existing evidence for one hotly debated staffing policy: the levels of education and experience held by Registered Nurses (RNs) in acute care hospitals. A systematic review of the literature was conducted in Pubmed. Relevant studies, published between January 2008 and December 2016, were retrieved by combining selected keywords (e.g., nurse, education, experience, patient outcomes). The bibliographic list of any identified article was also revised to identify any other relevant studies. Published systematic reviews were searched to identify any additional studies. To be included in the review, the retrieved articles needed to: a) describe a study examining the association between RNs' levels of education or experience and at least one patient outcome; b) have been carried out in acute care hospitals. A total of 6 studies were identified, including 3 primary studies (2 cross-sectionals, 1 longitudinal), 1 secondary analysis and 2 systematic reviews which summarized studies conducted prior to 2008. All retrieved studies revealed a positive association between higher proportions of baccalaureate-prepared RNs in the nursing staff and a lower risk of mortality and morbidity. Only one study identified significant associations between higher levels of RNs' experience and a decrease in both falls and pressure ulcer rates. None of the retrieved studies examined the potential interaction between RNs' levels of education and experience, and the potential effect of such an interaction on patient outcomes. Given the current shortage of baccalaureate-prepared RNs in acute care hospitals, there is a pressing need for policies supporting their recruitment and retention. Further studies are required to better document the impact of RNs' levels of experience on adverse patient outcomes and its potential interactions with RNs' levels of education.
Co-Author(s): Li-Anne Audet, Patricia Bourgault, Christian Rochefort

Producing Value and Innovation in Healthcare Procurement: Learning from Four Pilot Projects of Innovation Procurement in Ontario
Presented by: **Renata Axler**, Research Associate, World Health Innovation Network, University of Windsor
Many have criticized current procurement practices in healthcare in Ontario for not adequately producing value for procuring organizations, and for excluding important supplier inputs. This presentation examines the introduction of models of 'innovation procurement' in Ontario to increase accountable supplier – health system interactions, and to maximize value for healthcare To examine processes of innovation procurement in healthcare organizations, four in-depth case studies were undertaken at organizations pursuing innovation procurement projects. Data were drawn from observation at procurement events, document reviews, and in-depth qualitative interviews and focus groups with procurement teams and health industry suppliers, in order to capture their experiences. Results from these case studies will be presented in aggregate form so as to not identify individual participants or teams engaged in these processes, but instead to highlight the general challenges and successes of these initiatives, as well as their potential to be scaled across healthcare organizations. Innovation procurement processes aim to enable healthcare organizations to harness the capacity of the health industry supplier market, and to create value for health organizations beyond purely cost-based metrics. However, as these processes are relatively new in Ontario, procurement teams undertaking them often struggle with structuring these procurement initiatives. Despite these challenges, organizations see great promise in these initiatives for enhancing patient and organizational value, and creating health innovations to meet their needs. Innovation procurement processes also tend to be more resource-intensive for health industry suppliers than traditional procurement processes, but suppliers are nonetheless enthusiastic about these models, which allow them to fairly and transparently interact with healthcare organizations, and tailor health products and services to meet health system needs. Despite the upfront costs and resources required for innovation procurement, there is great promise in spreading these models across health organizations in Ontario. As innovation procurement skills, resources and culture are developed, innovation procurement has the capacity to greatly increase value for patients and health system outcomes and decrease costs.
Co-Author(s): Renata Axler, Anne Snowdon, Ryan DeForge, Phillip Olla

Physician Communication via Internet-Enabled Technology: A Systematic Review
Presented by: **Neil Barr**, PhD Candidate, McMaster University
The purpose of this systematic review was to gain a greater understanding of the role that Internet-enabled technology (IET; information and communication technology such as smartphone apps and e-mail) plays in enhancing communication among physicians—which may inform current practices and future research—by examining evidence in the scholarly literature. Studies were identified through a search in three electronic platforms: the ACM Digital Library, ProQuest, and Web of Science (which included 12 databases/indexes). To be eligible for inclusion in the study, articles needed to: 1) be published in a peer-reviewed journal; 2) be accessible in English; 3) be published between 2005 and 2015; and 4) have IET for health care communication among physicians as the primary objective of the investigation. Studies were assessed for quality, and findings were summarized and analyzed through a process of narrative synthesis. The search identified 5,140 articles; 21 of these met all inclusion criteria (16 studies used quantitative methods, three used qualitative methods, and two used mixed methods). Physicians participating in the included studies were from a variety of medical specialties (e.g., cardiology, radiology). Various forms of IET were described, including electronic health records, mobile devices, e-mail, image transmission and storage/picture archiving and communication systems, and web portals. In general, physicians were more satisfied with IET than conventional communication methods, but a lack of consensus emerged regarding whether health information exchange was more efficient, and if communication via IET makes a difference to clinical decision-making/diagnoses. IET can play an important role in enhancing communication among physicians, but the extent of that benefit is influenced by: 1) the impact of IET on existing work practices; 2) the availability of resources for IET implementation and use; and 3) the nature of institutional elements, such as privacy legislation.
Co-Author(s): Neil Barr, Glen Randall, Norman Archer, David Musson

Guidance for the Use of Internet-Enabled Technology: Health Information Protection and the Physician Regulatory Colleges in Canada
Presented by: **Neil Barr**, PhD Candidate, McMaster University
The purpose of this study was to examine guidance provided by the provincial physician regulatory colleges to their members regarding the protection of health information when using Internet-enabled technology (IET; information technology such as e-mail), and to assess the associated policy and service delivery implications for health system performance. Websites of the provincial physician regulatory colleges were searched for documents that provided guidance to their members regarding the use of IET. To be eligible for inclusion in the study, documents needed to: 1) provide specific direction regarding maintaining—one or more of—confidentiality, privacy, and security of health data; and 2) mention a type of IET used for (or electronic/digital means of) data storage, transmission/use, or destruction. For each of the included documents, the precise wording related to the inclusion criteria was examined to determine the extent of guidance given. The search identified 522 documents; 12 of these (from eight colleges/provinces) met eligibility criteria for the study. Among the included documents, there was considerable variation in terms of the quantity of guidance and degree of detail provided. In addition, 5 out of 8 colleges discussed procedures related to storage of digital/electronic health data, 6 out of 8 discussed transmission/use, and 3 out of 8 discussed destruction. Colleges that provided more informative guidelines appeared to be from provinces in which the associated governments had a longer history of proactive policy platforms aimed at modernizing legislation/regulations and enhancing IET infrastructure. The federal-provincial division of powers has likely resulted in a lack of collaboration among the health regulatory colleges, leading to inequalities and inefficiencies in health information protection. Thus, improvements in health system performance are unlikely to be realized in the absence of efforts to foster cooperation at the provincial level.
Co-Author(s): Neil Barr, Glen Randall

Intersections of Mental Health & Digital Media in Young Lives

Presented by: **Brandi Bell**, Assistant Director - Young Lives Research Lab, University of Prince Edward Island

Emerging technologies have the potential to support mental health promotion and treatment for youth; however, they also introduce new challenges for youth mental health. This presentation addresses how digital media (e.g., the internet, smart phones, social media) may impact the lives of young people, particularly with respect to mental health. Semi-structured qualitative interviews were conducted with youth 10-21 years of age as part of two projects: (1) Atlantic Canada Children's Effective Service Strategies in Mental Health (ACCESS-MH), funded by CIHR, and (2) Digital Media and Young Lives Over Time, funded by SSHRC. Youth interviewed for the ACCESS-MH project identified with diagnosed mental illnesses (including depression, anxiety, eating disorders) and discussed how digital media figured in their mental health journey. Youth interviewed for the Digital Media project were not asked explicitly about mental health; however, several spoke about the intersections of their media use and mental health. Thematic analysis was conducted to identify data specifically relevant to mental health and digital media use. Speaking with young people about their experiences with digital media or their mental health reveals both anticipated and unexpected interconnections between the two. Young people are struggling to find relevant and appropriate mental health information and supports, balance their 'real' and 'virtual' selves/lives, manage the pressures of constant connectedness, and master new forms of interpersonal communication. As young lives continue to be marked by increased use of technologies and youth-focused e-mental health initiatives are developed, it is imperative that the intersections of technology and mental health in young lives are better understood. Increased clarity about how youth experience the intersections of their digital media use and mental health will enhance program and policy development in media and mental health literacies, as well as interventions addressing mental health promotion, mental illness prevention/treatment, and stigma.

Co-Author(s): Brandi Bell, Matthew Munro, Kate Tilleczek

Organizational Designs for Innovation in Healthcare

Presented by: **Onil Bhattacharyya**, Clinician Researcher, Women's College Hospital

Value-based financing and digital technologies create opportunities to transform healthcare delivery. In response, some organizations have created innovation centres that incorporate methods from industrial design and the software industry to develop new models of care. We explored different organizational structures for these centres to understand their strengths and weaknesses. We reviewed the data on 33 healthcare innovation centres from the Commonwealth Fund Innovation Centre Survey, identifying 14 operating for over three years with at least one innovation that had spread. Eleven organizations agreed to a screening process, with four different designs emerging. One example of each design was selected for a case study involving a site visit, key informant interviews, and document review to describe the structure, activities, and projects from their innovation centres. Using the theoretical lens of organizational ambidexterity from the management literature, qualitative data analysis was carried out with NVivo11 to identify key themes and patterns. We identified four organizational designs for innovation: 1) Skunkworks: The innovation centre has a dedicated team, with limited oversight by senior leaders. It has few constraints, but more difficulty spreading new models. 2) Ambidextrous: The innovation centre has a dedicated team and close links to senior leadership. It requires strong leadership buy-in and is aligned with (but also constrained by) organizational strategy. 3) Hybrid: The innovation centre has a dedicated team supporting innovations from frontline staff, and reports to senior leadership. It can spread new models widely, but depends on frontline staff for ideas. 4) Cross-functional: Frontline staff engage in improvement and innovation activities, with a dedicated manager who trains them. This requires few dedicated staff, but a massive investment in training and culture change. Healthcare organizations are experimenting with new organizational designs to increase their capacity to innovate. In deciding which design to pursue, it is important to consider the desired levels of leadership and frontline staff engagement, which will be determined by both the strategic importance of innovation and the underlying organizational culture.

Co-Author(s): Onil Bhattacharyya, Eric Schneider, Kathryn Mossman

Inter-organizational collaboration in Primary Health Care (PHC) Organizations: potential and challenge in new PHC models

Presented by: **Roxane Borgès Da Silva**, Professeure adjointe, Université de Montréal (Faculté des sciences infirmières)

1. To describe the extent of inter-organizational collaboration among primary health care (PHC) organizations and with hospitals, and its evolution over time; 2. To identify which models of PHC organization are associated with more inter-organizational collaboration; 3. To determine the impact of inter-organizational collaboration on accessibility and continuity of care. Study design was a before-and-after natural experiment in which new models of PHC constituted the treatment group, and the other clinics formed the comparison group. We carried out population and organization surveys in 2005 and 2010 in the two most populous regions of Quebec. Surveys were conducted on independent adults' samples (9,206 in 2005 and 9,180 in 2010). Surveys of all PHC organizations were also carried out in 2005 (N=659) and in 2010 (N=606). Individuals were linked with PHC organization identified in the survey as their usual source of care. Overall, our results show that 60% of PHC organizations had a collaboration agreement with another PHC organization or a hospital in 2005 but this percentage decreased to 53% in 2010. However, the percentage increased for new models of PHC between 2005 and 2010 (71% to 89%) while it decreased for other PHC organizations from 56% to 43%. Respondents attached to PHC organizations with no collaboration reported a lower accessibility of services than those attached to PHC organizations with collaboration who conversely reported lower continuity of care. Since inter-organizational collaboration was greater in new models of PHC organizations, we observed similar results for patients attached to the new models compared to those attached to other PHC organizations. Inter-organizational collaboration is greater in new PHC models; it also increases accessibility but not continuity. Increasing accessibility was a prime objective in implementing new models but without decreasing continuity. Integrating all aspects of patient care experience represents a challenge to face for the new PHC models in coming years.

Co-Author(s): Roxane Borgès Da Silva, Raynald Pineault, Sylvie Provost, Michel Fournier, Alexandre Prud'homme, Jean-Frederic Levesque

Implementing Clinical Practice Guidelines in Healthcare: A Conceptual Framework

Presented by: **Erica Bridge**, PhD Student, University of Toronto

Clinical practice guidelines (CPG) are evidence-informed recommendations intended to optimize patient care by assisting provider clinical decision-making. Although CPGs can improve the quality of care and patient oucomes, uptake of CPGs in practice is limited. The study objective is to describe a conceptual framework for the implementation of CPGs. The CPG implementation conceptual framework consisted of two steps. First, a scoping review, using the MEDLINE database, was conducted to identify key concepts known to influence CPG implementation in healthcare. Key concepts in CPG implementation include: 1) CPG characteristics; 2) implementation context (i.e., internal and external); 3) healthcare provider and patient characteristics; and 4) healthcare provider behaviors. Using the findings from the scoping review, implementation science frameworks were explored to conceptualize CPG implementation in healthcare. Components of the Consolidated Framework for Implementation Research (CFIR) and the Theory of Planned Behavior (TPB) can be used to explain CPG implementation in healthcare. The CPG implementation conceptual framework consists of five components. CFIR components include: 1) guideline characteristics (i.e., evidence strength and quality, relative advantage, adaptability); and 2) context (i.e., culture, leadership communication, teamwork, resources and incentives, social norms, organizational policies, structural characteristics). TPB components include: 1) healthcare provider beliefs and attitudes (i.e., awareness, level of agreement, knowledge, self-efficacy); 2) perceived control; and 3) behavioral intention. The CPG conceptual framework proposes that: 1) guideline characteristics influence healthcare provider beliefs and attitudes; 2) context influences healthcare provider beliefs and attitudes; 3) healthcare provider beliefs and attitudes influence behavioral intention; 4) perceived control influences behavioral intention; and 5) behavioral intention influences behavior. This study describes a conceptual framework for the implementation of CPGs. This conceptual framework combines various components from the CFIR and the TPB, in order to understand and explain CPG implementation in healthcare. Future research is required to evaluate the effectiveness of this framework in CPG implementation.

Co-Author(s): Erica Bridge

Teenage pregnancy and long-term mental health outcomes among Canadian Aboriginal women

Presented by: **Hilary Brown**, Dr. Hilary Brown, University of Toronto

Teenage pregnancy has negative social and health consequences, but long-term mental health outcomes are poorly understood. Our objectives were to: (1) compare the risks for poor long-term mental health outcomes among Aboriginal women with and without a teenage pregnancy and (2) determine if community and cultural factors modify this risk. We conducted a secondary analysis of the 2012 Aboriginal Peoples Survey. Our sample comprised women aged 25 to 49 years who had given birth to at least one child. Teenage mothers (age at first birth: < 2 0 years; n=1,330) were compared to adult mothers (age at first birth: ?20 years; n=2,630). We used logistic regression to examine the association between teenage pregnancy and psychological distress, mental health status, suicide ideation/attempt, and alcohol consumption, before and after controlling for social and health covariates. We then tested the statistical significance of interaction terms between teenage pregnancy status and community and cultural factors. In unadjusted analyses, teenage pregnancy was associated with increased risk for poor/fair mental health (20.3% vs. 12.5%; uOR 1.77, 95% CI 1.24-2.53) and suicide ideation/attempt (8.1% vs. 4.3%; uOR 1.95, 95% CI 1.07-3.54). Associations were non-significant after controlling for social and health covariates; statistically significant covariates for both of these associations were food insecurity, poor/fair general health, and having a learning disability. Teenage pregnancy was not associated with increased risk for high psychological distress (9.7% vs. 6.0%) or heavy alcohol consumption (4.8% vs. 4.0%) before or after controlling for social and health covariates. Community (i.e., strength of family ties, community support) and cultural factors (i.e., ability to speak an Aboriginal language, involvement in traditional activities, residential school attendance) did not modify the main associations reported. Improvement of long-term mental health outcomes among Aboriginal teenage mothers requires programs and policies that address their social and health circumstances. Interventions targeting these risk factors should consider multiple strategies including culturally grounded and strength-based approaches.

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Partners Advancing Transitions in Healthcare (PATH) Project Evaluation

Presented by: **Suman Budhwani**, PhD Candidate, Institute of Health Policy, Management & Evaluation, UofT

The PATH project was implemented in May 2014 in Northumberland County to improve health system transitions for older adults with chronic conditions and their caregivers. The objectives of this study were to evaluate participant experience and changes in health utilization for project participants using the My Health Experience technology platform. Real-time survey data were collected via participant and provider self-report from the technology platform. Data collected included baseline and demographic information, self-reported needs, participant experiences with health care encounters, standardized measures such as the CollaboRATE scale, PAM and PACIC measures, and the overall utility of the tool. Additionally, for the summative evaluation, a propensity-matched cohort was constructed selecting controls meeting the PATH enrolment criteria. Outcome measures of interest included acute hospitalizations, ED visits, days in acute care, primary care and specialist visits. Comparative effectiveness evaluation was performed on each indicator using a Difference-in-Differences (DID) approach with generalized estimating equations (GEE). A total of 319 participant experience surveys were completed by 73 of the 121 PATH enrollees. A net positive trend was noted for questions assessing participant needs and experiences, and provider communication. CollaboRATE scores remained consistent, while some increases were noted in PAM and PACIC scales. Provider participation in the survey was limited. Those who did participate reported low utilization of the tool and few derived benefits. For the utilization analysis (n=106 PATH enrollees, matching rate=94%), the number of hospital days increased significantly over time for controls (p=0.017 [sig=0.10]), but did not change significantly for PATH participants. No significant changes over time were observed for PATH enrollees or controls, and DID estimates were also not statistically significant, on any of the other outcome measures. PATH had limited effects on health system utilization and relatively low response rates to self-reported experience measures. Although the tool may have demonstrated utility, certain systematic barriers exist such as patient and provider motivation which may prevent the tool from contributing to significant changes in participants' health service utilization.

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Use of Mixed Methods in Research on Coronary Artery Disease, Diabetes, and Hypertension: A Scoping Review

Presented by: **David Campbell**, Clinician-Fellow, University of Calgary

Among patients with CAD, diabetes and hypertension we sought to: (1) determine the extent of use of MMR; (2) describe what types of researchers are using mixed methods designs; (3) describe the MMR designs commonly used; and (4) describe the commonly used data study designs and data collection techniques in We searched the following electronic databases: Pubmed, Medline, EMBASE, and CINAHL strategy using key words and title/abstract words for both the content area of interest and for the methodology of interest (mixed methods, multi-methods or multiple methods). Two reviewers independently assessed each abstract that was identified by the initial search. In the second stage, both reviewers read each full-text article and, based on a set of pre-defined criteria, determined which articles would be included. Both reviewers independently extracted data from each study advanced to full-text review and consensus was reached through discussion. We identified 811 abstracts of which 254 articles underwent full-text review and 97 reports of 81 studies met criteria for inclusion. The majority of studies in this area were conducted in the past 10 years by nurse researchers from the US and UK. Diabetes was the most common content area for mixed methods investigation (compared to CAD and hypertension). Most authors described their rationale for using mixed methods as complementarity, and did not describe study priority or how they reconciled paradigmatic differences in methodologies. Some mixed methods study designs were more commonly used, including concurrent timing and integration at the interpretation stage. Qualitative strands were most commonly descriptive studies using interviews for data collection. Quantitative strands were most commonly cross-sectional observational studies, which relied heavily on self-report data. Although mixed methods research is becoming increasingly popular in the area of coronary artery disease and its risk factors, many of the more advanced mixed methods, qualitative, and quantitative techniques have not been commonly used in these areas.

Co-Author(s): David Campbell

Improving the transition of youth with type 1 diabetes into adult care

Presented by: **Roger Chafe**, Associate Professor, Memorial University of Newfoundland

To determine the processes used to transition pediatric type 1 diabetes patients into adult care in Newfoundland, with a focus on the differences in transition experience between rural and urban areas, and exploring how primary care physicians could play a larger role in providing care to young adults with T1D. The project is using a qualitative description methodology. Patients with T1D who have recently transitioned into adult care have been asked to participate in focus groups. Pediatric and adult providers, including diabetes nurses and primary care physicians, are being interviewed to explore their experience with transition and to identify ways to improve the transition into adult care. Participants represent both urban and rural settings. Six of the expected 25 interviews for the project have been completed so far, with the remaining interviews and focus groups to be completed by the end of April 2017. Initial results suggest that there is a good deal of variation in how and to which providers youth with type 1 diabetes transition at the end of pediatric care. Rural parts of the province do not have access to specialist endocrinologists, but appear to face fewer issues related to transition as the same providers often see them as both pediatric and adult patients. Primary care providers are sympathetic to see diabetes patients, but often do not see enough patients with type 1 diabetes to feel comfortable wholly taking over their care. This project offers a unique perspective on both the transition of patients into adult care in rural vs. urban areas, and around better engaging primary care providers in the process; identifying some of the specific challenges there are to improving transition care on a province-wide basis.

Co-Author(s): Roger Chafe

Changes in Employer-Sponsored Health Insurance for Canadian Retirees from 2005 to 2014

Presented by: **Fiona Chan**, Master Student, UBC Centre for Health Services and Policy Research

To observe changes in employer-sponsored health insurance (EHI) for retired Canadians over time. EHI is important for many Canadians by increasing accessibility to non-publically-covered treatments. Retirees are particularly vulnerable to EHI changes due to declining health. American data consistently show decreasing EHI generosity in recent decades; no Canadian data available. The 2005 (Cycle 3.1) and 2013-2014 cycles of the Canadian Community Health Survey were analyzed using multivariate logistic regression to investigate the association between EHI availability over time amongst Ontarians. Individuals over the age of 65 who have not worked in the past 12 months were included. Potential confounders in the relationship include age, sex, urban/rural dwelling, marital status, household income, education, number of chronic illnesses, and self-reported health status. Unadjusted and adjusted odds ratios (OR) as well as predicted probabilities of receiving EHI were calculated to describe the relationship between survey year and EHI availability. Approximately one-third of respondents reported having EHI, with a slightly higher proportion reporting receipt of EHI in the 2005 cycle compared to the 2013-2014 cycle. In the unadjusted analysis, there was no association between EHI availability and survey year. Bivariable results suggest that males, younger individuals, those in higher income deciles, those who had at least graduated from high school, and married individuals had higher odds of receiving EHI. Results adjusting for confounders suggest that individuals in 2013-2014 compared to individuals in 2005 had lower odds of having EHI, compared to not having EHI (OR 0.83, 95% CI 0.73-0.94). The change in estimate is mainly attributable to the effect of household income. This represents an absolute decrease of approximately 2% in receiving EHI over this time period. This study provides the first Canadian individual-level data of EHI change. These results provide evidence that employers have been less generous in providing EHI in the past decade. Data limited to Ontario, but results likely generalizable nationally. The impact of decreased coverage availability may produce adverse health outcomes in this vulnerable, elderly population.

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Index or illusions: the case of frailty indices in the Health and Retirement Study

Presented by: **Yi-Sheng Chao**, Postdoctoral fellow, Centre de recheche du CHUM

Frailty is a geriatric syndrome that has been described with different measurement tools and theories. However, we are concerned about implicit assumptions regarding frailty, unclear criteria to select candidate domains of frailty and data processing prone to bias. We aim to review the interpretability and predictive power of FIs. Three frailty indices (FIs), Functional Domains Model, Burden Model and Biologic Syndrome Model, are directly compared with the data from the Health and Retirement Study, a longitudinal study interviewing Americans aged 50 years and over. FIs were reproduced according to Cigolle et al. (2009) and interpreted with input variables through forward-stepwise regression. Bias was the residuals of FIs that could not be explained by input variables. Any four of the input variables were used to create alternative indices. Discrete-time survival analysis was conducted to compare the predictive power of FIs, input variables and alternative indices regarding mortality. There was insufficient information to fully reproduce three FIs. The sample sizes and prevalence rates were similar though. There were at least four, one and five sources of bias for respective FIs. The prevalence rates among those younger than age criteria could be as high as 23.9%, compared to 44.7% among the elderly in Burden Model. The proportions of FI variances unrelated to input variables were 14.7%, 0.014% and 21.7%. More than 90% of Burden Model variance could be explained by a less number of input variables. Frailty status defined by Biological Syndrome Model was better interpreted with bias. Input variables better predicted mortality than FIs. Continuous FIs better predicted mortality than dichotomous ones. At least 6865 alternative indices better predicted mortality than FIs. Frailty is a syndrome not unique to the elderly. FIs are produced with different degrees of bias, information unrelated to input variables. Complicated FI, Burden Model, can be simplified. FIs cannot better predict mortality than input variables or many alternative indices. Caution is required when using FIs.

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A patient-centred discharge approach for overactive bladder

Presented by: **Camille Charbonneau**, Research Coordinator, vesia [Alberta Bladder Centre]

Overactive bladder (OAB) is a chronic condition affecting approximately 14% of Canadians. This risks overwhelming specialty care capacity, which is usually the setting in which patients with OAB get treated. This study's objective is to identify factors related to discharge for OAB from urology that are relevant to patients. First, a scoping review was undertaken to establish the methods and policies currently used to discharge patients from specialty back to their primary care physician. Based on this review, we designed a conceptual framework with respect to high quality discharge from specialty to primary care. We sought to validate and operationally define this conceptual framework through focus groups with patients diagnosed with OAB. Nvivo was used to analyze the qualitative data collected during the patient focus group. Based on the review, 8 factors were included in our conceptual framework of high-quality discharge: 1) treatment continuity, 2) re-referral, 3) symptom management, 4) clinical evidence, 5) best practices, 6) patient self-management, 7) patient education, and 8) information on when to seek care. A 60-minute focus group was conducted with 4 patients from a urology clinic in Calgary, AB. The patients represented a diversity of ages, sexes, ethnicities, and backgrounds. X themes emerged from this focus group: 1) long wait times, 2) dissatisfaction with solutions proposed at their appointment, 3) no permanent solutions, 4) lack of information shared between specialist and general practitioner. As the prevalence of OAB care in specialty settings rises, the need for an effective discharge tool is increasingly important. Engaging patients in the development of such a tool is an effective method of ensuring that the health goals of patients with OAB are a central focus.

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An Early Feasibility Study of Midwifery Services in a Socially Disadvantaged Population

Presented by: **Paola Charland**, Research & Evaluation Consultant, Alberta Health Services

We explored the feasibility of implementing midwifery services to improve social and health outcomes for socially disadvantaged women. We partnered with a social agency that serves socially disadvantaged women to understand whether midwifery services could holistically address maternal and social needs of this population in place of traditional maternity care. We used a mixed methods approach. Using administrative data, we developed a profile of socially disadvantaged women, including socioeconomic characteristics, health service utilization and maternal health problems faced by this population. This profile served to identify gaps that midwifery services could address. We asked women clients of our partner agency to complete a survey and participate in interviews to understand their current maternity health utilization, satisfaction with services, and barriers/facilitators to accessing midwifery services. Focus groups with partner agency staff and interviews with practicing midwives will be conducted to further inform how the holistic approach of midwifery may benefit this population. Preliminary findings from administrative data suggest that socially disadvantaged women do not access prenatal care services adequately and may be at risk for poor maternal and birth outcomes. Furthermore, preliminary qualitative findings suggest that midwifery services would be well accepted and utilized by socially disadvantaged women. The main barriers to currently accessing midwifery services include lack of awareness that midwives are available, not understanding what services midwives provide and, how to access a midwife. There was also confusion on the cost associated with midwifery services with most participants assuming that they would have to pay out-of-pocket for the expense. Midwifery services in Alberta have been government funded since 2009. We conclude that socially disadvantaged women would likely accept and utilize midwifery services if given the opportunity. By addressing identified barriers to accessing midwifery services a midwifery model of care can be built that holistically and simultaneously addresses the health/social needs of socially disadvantaged women and their children.

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Case management for frequent users of healthcare and social services: a participative research project with organizations and patients
Presented by: **Maud-Christine Chouinard**, Professor, Université du Québec à Chicoutimi
1) To describe and compare case management (CM) program models used in services offered to frequent users of healthcare and social services, identify practice issues and best strategies and disseminate research results; 2) To reach consensus on best practices and develop recommendations for decision-makers. A participative research project was conducted with various stakeholders engaged in the organization of case management services for frequents users. Within this project, two regional meetings, one year apart, brought together key stakeholders of six healthcare and social services centers of the Saguenay-Lac-Saint-Jean region (Québec, Canada). The participants: decision-makers, managers, healthcare professionals, representatives of community organizations, researchers and partner patients (43 persons at the first and 38 persons at the second meeting) participated in focus groups and transcripts of the discussions were analyzed using thematic analysis. The first meeting identified: 1) main practice issues related to resistance to change, working in silos, and limits of clinical information tools; and 2) facilitating factors for the implementation and functioning of programs such as support from management, the acknowledgement of the case manager's role and the importance of developing individual services plans (ISP). Findings from the second meeting highlighted the importance of: 1) a centralized regional case finding process using existing information systems; 2) the clarification of roles and responsibilities according to patient needs; 3) the improvement of communication with family physicians; and 4) navigation among services and partners facilitated by the transmission of the ISP and its follow-up. Patients mentioned the complexity of the healthcare system and the importance of communication between stakeholders. These meetings enabled the sharing of evidence and concrete experiences of the patients and stakeholders involved in the CM programs for frequent users of healthcare and social services. The involvement of decision-makers contributed to reorient CM programs for this clientele in order to harmonize practices based on a regional consensus.
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Innovative Coalition Empowering Change, Improving Outcomes: A Case Study on Using Integrated Knowledge Translation to Address Malnutrition in Older Adults on Vancouver Island
Presented by: **Erin Coates**, Medical Student, University of British Columbia, Island Medical Program
The presentation of the initial findings in November 2015 led to the formation of the Coalition and IKT activities in November 2016. The purpose of this presentation is to share practical ideas about an Innovative Malnutrition Coalition of Leaders from Hospital, Community, Practice, and Academia that was formed to address the issue of Malnutrition. According to CIHR, IKT is a "process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians?". To address the issue of Malnutrition and Older Adults within Island Health, an IKT Malnutrition Coalition was formed that is: (1) encouraging the use of local research findings; (2) promoting the spread of successes; and (3) facilitating Health Care-Community partnerships. The initial step of this process was achieved by organizing and facilitating a half-day IKT event to address this pressing issue and determining Next Steps through a collaborative discussion between Clinicians, Island Health, Community Leaders, and Academics. Over 50 participants partook in this event. Leaders from Community Organizations, Island Health, and the Nanaimo Municipality discussed Canadian Malnutrition Task Force data related to Malnutrition and Older Adults in the Nanaimo area. Participants engaged in break-out sessions to discuss key questions about this issue, and reconvened as a large group to share their strategies for Next Steps. These IKT activities have resulted in (1) sharing evidence to inform health system and practice; (2) discussing barriers and resources available to support practice change; and (3) increased involvement of community, clinicians, and decision-makers in research partnerships. These IKT activities highlight the opportunity for researchers and clinicians to work with community partners to fill resource gaps in communities and within the health care system. It also demonstrates an opportunity to engage both practicing physicians and medical students in the IKT process. .
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USE OF ANTIPSYCHOTICS AMONG SENIORS LIVING IN LONG-TERM CARE FACILITIES
Presented by: **Diana Craiovan**, Senior Analyst, CIHI
This analysis examines the use of antipsychotics among seniors living in long-term care (LTC) facilities, and the concurrent use of antipsychotics with other psychotropic drugs, which further increases risk of side effects. It also looks at the characteristics of residents treated with antipsychotics, including diagnoses, behaviours and other functional measures. Drug claims data from the National Prescription Drug Utilization Information System (NPDUIS) Database, housed at the Canadian Institute for Health Information (CIHI), provide detailed information about antipsychotic use. LTC resident assessment data from CIHI's Continuing Care Reporting System (CCRS) provide detailed resident information. Residents with severe cognitive impairment and those exhibiting highly aggressive behaviour were more likely to have used an antipsychotic. However, a large proportion of seniors exhibiting severe aggression were not treated with antipsychotics, suggesting that non-drug alternatives were often considered. Quetiapine was the most commonly used antipsychotic (19.2% of LTC residents), followed by risperidone (14.1%). Among seniors who were chronic users of an antipsychotic, 64.3% were also chronic users of an antidepressant. The use of more than 1 psychotropic drug increases the risk of side effects — including falls. In Manitoba, antipsychotic use decreased from 38.2% in 2006 to 31.5% in 2014. This was due in part to initiatives implemented by the Winnipeg Regional Health Authority, to reduce inappropriate antipsychotic use in LTC facilities. In September 2014, The Canadian Foundation for Healthcare Improvement began supporting several health care organizations across Canada to adopt initiatives to reduce inappropriate antipsychotic use in LTC facilities. As more facilities start implementing similar strategies, the overall rate of antipsychotics use in LTC facilities may decrease.
Co-Author(s): Diana Craiovan, Jeff Proulx

Understanding healthcare providers' perspectives of health behaviour change in a childhood obesity program: A qualitative study
Presented by: **Shawna Cronin**, PhD Student, University of Toronto
As childhood obesity rates have increased, numerous programs have developed that aim to improve health through lifestyle and behavioral modifications. Unfortunately, many of these programs have had limited success and high rates of attrition. This study examined the perspectives of healthcare providers on behaviour change in a childhood obesity program. A qualitative descriptive approach was used to describe the perspectives of healthcare providers (n=18) from three hospitals in an urban hospital system. Providers included paediatricians, registered nurses, dietitians, and administrators who work with and refer families to a 2-year childhood obesity program that offers a range of services, which aim to combat childhood obesity. We conducted and analyzed semi-structured, in person interviews (range: 30 – 45 minutes), which were audio recorded and transcribed verbatim. We applied an inductive approach to coding and the subsequent thematic analysis. Providers reflected on the diversity of participants in terms of the range of ethno-cultural backgrounds and family structures represented in the sample. Providers consistently noted concerns about parental self-efficacy regarding limit setting with children and poor perceived value of the program as barriers. In addition to family dynamics, relations between family income and cultural influence were sometimes perceived as barriers to positive changes in health behaviours and other times these determinants were described as factors that lead to favourable behaviour change. Positive role modeling by parents and providers and setting realistic goals were also factors that providers perceived as critical to the childhood obesity program.   Childhood obesity programs taking an inclusive family approach should emphasize parental self-efficacy and consider the importance of role modeling to facilitate sustained child health behaviour changes. Findings may have relevance for programs in other ethno-culturally diverse communities.
Co-Author(s): Shawna Cronin, Michelle Silver

A population-based study of care at the end of life among people with HIV in Ontario
Presented by: **Claire Kendall**, Clinical Scientist, University of Ottawa c/o Bruyère Research Institute
The demographic shift of an aging and increasingly comorbid population is changing the end-of-life experience of people with HIV in developed settings. Our objective was to quantify, at a population level, the health care use and associated costs across a comprehensive set of sectors among decedents with and without HIV. Retrospective population-level observational study of decedents and their health care use, captured through linked health administrative databases in Ontario, the Canadian province with more than 13 million residents and the highest number of people living with HIV. We included all decedents in Ontario from April 1, 2010 to March 31, 2013 and identified decedents with HIV using a validated algorithm. We described the characteristics of the population dying with HIV and their health care use and associated costs by health care sector in the last 90 days of life. We observed 264,754 eligible deaths, 570 of whom had HIV. Only 20.2% of decedents without HIV were younger than 65 years of age compared to 73.9% of those with HIV. Decedents with HIV died more often in acute care (57.54% vs. 45.67%). Mean costs of care in their last year were significantly higher among decedents with HIV ($82,047.54 vs. $53,600), mostly attributable to acute care costs. Decedents with HIV spent a mean of 20.1 days in an acute care hospital in the last 90 days of life compared to 12.0 days for decedents without HIV; after adjustment, HIV was associated with 4.9 more acute care days. People with HIV in Ontario are dying younger, spending more time and dying more often in hospital, and at significantly increased costs prior to death than people without HIV. Interventions such as greater involvement of primary care in the community can potentially improve the dying experience for this complex population.
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Translating Research into Care: Supporting researcher-administrator collaborations to improve health service delivery and patient care
Presented by: **Sandra Crowell**, Program Leader, Nova Scotia Health Authority and IWK Health Centre
Translating Research into Care (TRIC) healthcare improvement research program funds implementation science research in two Nova Scotia health care facilities and provides the evidence necessary for improving health service delivery and patient care. This presentation will illustrate the unique features of this funding program and share early program evaluation data. The TRIC program has several unique features: researchers and health administrators must co-lead projects; administrators must commit to sustain the successful health system change post-project and to cover operational costs associated with the change; and the patient voice must be included in the research. Teams apply for up to $3,000, $30,000 or $60,000 for one or two year projects. Applications are peer reviewed by a committee of researchers, administrators, patients and funding partners who assess projects for scientific and administrative merit. Funded projects will do one or more of the following: Improve: patient outcomes, access and/or safety; Reduce: costs, wait Since the TRIC program was initiated in 2013 with financial support from the QEII and IWK Health Centre Foundations, 107 projects have been considered with 48 projects funded worth over $1.3 Million. The program has facilitated relationships between interdisciplinary teams of health care administrators, clinical researchers and trainees; has promoted patient engagement in health care research; and is positively impacting health care and service delivery at the IWK Health Centre and QEII Health Sciences Centre. Quantitative and qualitative program evaluation data and examples of specific projects and their impacts will be shared, along with plans for further expansion of the program. Although many funded projects are still ongoing, early evidence indicates that the TRIC healthcare improvement funding program addresses a critical funding gap by providing support for research that will improve service delivery and patient care by addressing contextualized research questions in a local setting.
Co-Author(s): Sandra Crowell, Patrick McGrath

Exploring quality indicators for older persons' transitions in care: A systematic review and Delphi process.
Presented by: **Rowan El-Bialy,** Research Program Manager, CLEAR Outcomes
1. Using systematic literature review methods, examine the evidence for quality indicators for care transitions among older persons; 2. Examine the psychometric properties of quality indicators for older persons' care transitions. 3. Evaluate the perspectives of experts on the feasibility of implementing quality indicators across care transitions This systematic review and Delphi process aims to catalogue and explore established quality indicators to evaluate the quality of care provided to older persons during transitions. Our search included articles examining development and testing of quality of care measures for older persons' transitions across the following settings: residential seniors' facilities, homes, emergency transport services, emergency departments (EDs), and, hospitals. Two reviewers independently screened abstracts and full text articles for indicators using predefined inclusion and exclusion criteria. In preparation for Delphi rounds, extracted indicators were coded by setting, Donabedian's structure, process and outcome, and Institute of Medicine (IOM) Domains of Quality. From 10,487 unique records screened, 41 met inclusion criteria. We digitally searched the grey literature for organization websites that generated reports of quality indicators, yielding an additional 12 organizational reports. 326 quality indicators (n= 266 established and n= 60 developing) were identified and coded according to setting, Donabedian framework domain, and the Institute of Medicine (IOM) domains of health care quality. We identified 35 structure, 212 process, and 79 outcome indicators, which included indicators prioritized as Timely (n=81), Safe (n=68), Effective (n=79), Patient-centred (n=63), Efficient (n=33) and Equitable (n=2). These indicators will be evaluated in two rounds of electronic surveys for relevance, feasibility and scientific soundness using a Delphi process. This will allow expert panellists to categorize indicators into "maintain", "consider" or "discard" groups. Quality indicators provide benchmarks for decision-making on quality improvement in healthcare systems. By identifying established indicators and knowledge gaps that exist in quality measurement, policy makers, knowledge-users and researchers can collaborate to improve care for vulnerable older persons across settings.
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THE VALUE OF DIAGNOSTIC TESTING FOR PARENTS OF CHILDREN WITH RARE GENETIC DISEASES
Presented by: **Zaheed Damani**, PhD/MD Candidate, University of Calgary
Patients with rare genetic diseases traditionally experience a prolonged and expensive diagnostic odyssey culminating in a delayed diagnosis or, too frequently, no diagnosis at all. Whole-exome sequencing (WES) can now rapidly identify mutation(s) responsible for rare, single-gene diseases, and potentially reduce the diagnostic odyssey. Before WES is adopted into clinical practice, a clear estimation of the value of a WES-based diagnosis for families is critical. Based on our literature review and qualitative research (focus groups, interviews with parents of children with rare genetic diseases), we developed a discrete choice experiment (DCE) survey which has been administered online to parents of children with rare genetic diseases. The DCE included 14 choice tasks with 6 attributes and 3 alternatives considering orthogonality, D-efficiency and level balance. Preferences were analyzed using conditional logit and hierarchical Bayes.   Preliminary results include n=214 respondents: mean age 41 (range: 22-65 years), female (90%), have university degrees (42%), married (72%), employed full-time (46%), and income ?$80,000 CAD (58%). Overall, 88% reported their child had genetic testing, and 64% reported their child had a diagnosis. Of those who reported no diagnosis, the mean duration spent seeking a diagnosis is 5.7 years (range: 1-25 years). The most valued attributes were time to obtain an answer from the diagnostic test (diagnosis or not), chance of obtaining a diagnosis and cost. The positive or negative impact of results and the type of diagnostic testing were significant but not as strongly valued, with WES preferred to other testing. Parents were willing to pay approximately $5000 CAD on average for diagnostic testing. Parents of children with rare genetic diseases place a high value on obtaining information, regardless if it is a diagnosis or not. Additionally, WES is valued over other diagnostic tests.
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Improving quality of care for scheduled clinical services: results from a post-policy implementation review of the Winnipeg Central Intake Service, a single-entry model of referral for total joint replacement
Presented by: **Zaheed Damani**, PhD/MD Candidate, University of Calgary
Single-entry models (SEMs) are one strategy for managing waiting times. In healthcare, they can improve accessibility to scheduled clinical services but impact on overall quality of care is poorly understood. We evaluated the Winnipeg Central Intake Service (WCIS), a SEM for patients referred for total hip (THR)/knee replacement (TKR). A pre/post-intervention cross-sectional design was used to measure changes in six quality of care dimensions. Two different, non-longitudinal cohorts were identified using the regional THR and TKR waitlist. Pre-WCIS (n=2,282) and post-WCIS cohorts (n=2,397) were compared before and after WCIS implementation[DM1] . Primary outcomes were waiting time (WT) variation across surgeons, waiting times (WT1 primary care to specialist referral; WT2 decision to treat until surgery; and, TW total waiting time), and proportion of surgeries within benchmark. Analysis included descriptive statistics; Student's t-test, chi-square tests; and, clustered regression analyses (by surgeon). [DM1]Probably need to reflect that these were not the same people.. Most orthopaedic surgeons experienced reduced variation for all waiting time categories following WCIS implementation. Simple comparison tests revealed variability in TW was reduced among surgeons by 3.7 (hip) and 4.3 (knee) weeks. Mean WT reductions for THR (WT1) and TKR (WT1/WT2/TW) and the increased proportion of patients who underwent TKR within benchmark (5.9%) waiting times were statistically significant. Among quality of care dimensions evaluated, accessibility and safety were the only dimensions that changed significantly (post-WCIS, THR and TKR). Regression analysis revealed statistically significant association between shorter WT2 and post-WCIS (knee), worse Oxford score (hip and knee) and having medical comorbidities (hip). Statistically significant associations were also found between meeting benchmark waiting times and post-WCIS (knee), lower BMI (hip) and worse Oxford score (hip and knee). The implementation of WCIS reduced variability in waiting times across surgeons, and facilitated modest reductions in overall patient waiting times for surgery. Further longitudinal studies with robust comparison groups are needed to better elucidate the impact of SEMs on quality.
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Implementation of Manitoba's Mental Health Strategic Plan: A Case Study Application of the Advocacy Coalition Framework
Presented by: **Karen De Blonde**, Graduate Student, University of Manitoba
This study examines mental health policy implementation. Its objective is to describe the factors, processes, challenges, and successes that effect the implementation of Manitoba's mental health strategic plan, "Rising to the Challenge: A strategic plan for the mental health and well-being of Manitobans". A case study application of the Advocacy Coalition Framework is used to describe this policy response in terms of its policy subsystem, relevant contextual factors, the extent of policy oriented learning, the policy actors involved in its implementation along with the resources, strategies, and beliefs that they bring with them. Ten interviews were completed with policy makers, mental health organization administrators, and front line workers to obtain their descriptions and interpretations of the implementation of this policy response. The interviews were analyzed using a narrative thematic analysis to uncover the common and contrasting themes amongst the different policy actors.   The analysis of the interviews resulted in the identification of patterns and themes in the experiences among the various policy actors involved. Preliminary findings have emerged from the ten interviews. The factors contributing to the challenges and success in implementing this policy include the availability of financial resources, clarity of the policy's purpose, utilizing evaluation standards, policy design, social mobilization, the implementation approach utilized, mental health system complexity, applicability to front line practice, time constraints, organizational supports, and leadership. The generated themes have helped define the factors that are most relevant for implementing policy in the mental health field along with the strengths and weaknesses of the approach that is being utilized for Manitoba's mental health strategic plan. This research highlights current issues facing public mental health policy. By describing the relevant implementation factors evident in this policy, mental health policy makers can be better informed to plan more effectively. More meaningful policies can be created to ensure positive impacts for those suffering from mental health issues.
Co-Author(s): Karen De Blonde

Analysis of health care costs among high-cost patients using finite mixture models
Presented by: **Claire de Oliveira**, Scientist/Health Economist, CAMH
A small group of health care patients accounts for a disproportionately large share of health care costs. However, little is known about the composition of this population. The main objective of this analysis was to determine the number of patient subgroups within the high-cost population using finite mixture models. Using administrative health care data from Ontario, Canada, we selected all patients in the ninetieth percentile of the cost distribution in 2012 (n = 987,887). We accounted for over 90% of all health care costs incurred by the third-party public payer (i.e. the Ontario Ministry of Health and Long-term Care). We examined socio-demographic and clinical characteristics for all patients. We modelled patient-level costs using various regression techniques, such as ordinary least squares (OLS), generalised linear models (GLMs) and finite mixture models (FMMs) with differing number of components, and compared these among themselves. We found that the FMM provides a better fit of costs compared to standard parametric models. Our preliminary results suggest there are several patient sub-groups within the high-cost population. All patients had some mental health and addiction-related costs as well as physical health-related costs. The smallest patient group (4%) had the highest average cost ($73,157) and was mostly made up of patients with psychosis. This group had the highest average number of comorbidities and the highest percentage of low-income patients among all patient groups. The largest patient group (26%) had a lower average cost ($11,174) and included a variety of patients with mostly physical health conditions. This group had a slightly lower number of comorbidities and percentage of low-income patients compared to the previous one. The high-cost population includes a multitude of diverse patient groups with different patient characteristics, chronic conditions and health care utilization. These findings will be useful to policy makers looking to design interventions/policies which address rising health care costs among patients with multimorbidity.
Co-Author(s): Claire de Oliveira, Joyce Cheng, Paul Kurdyak

Understanding the Impact of Accreditation on Quality in Healthcare
Presented by: **Laura Desveaux**, Postdoctoral Fellow, Women's College Hospital
To explore how organizations respond to and interact with the accreditation process and the actual and potential mechanisms through which accreditation may influence quality. Qualitative grounded-theory study of organizations who had participated in Accreditation Canada's Qmentum program during January 2014-June 2016. The accreditation process is largely viewed as a quality assurance process, which often feeds in to quality improvement activities if the feedback aligns with organizational priorities. Three key stages are required for accreditation to impact quality: coherence, organizational buy-in, and organizational action. These stages map to constructs outlined in Normalization Process Theory. Coherence is established when an organization and its staff perceive that accreditation aligns with the organization's beliefs, context, and model of service delivery. Organizational buy-in is established when there is both a conceptual champion and an operational champion, and is influenced by both internal and external contextual factors. Quality improvement action occurs when organizations take purposeful action in response to observations, feedback, or self-reflection resulting from the accreditation process. The accreditation process has the potential to influence quality through a series of three mechanisms: coherence, organizational buy-in, and collective quality improvement action. Internal and external contextual factors, including individual characteristics, influence an organization's experience of accreditation.
Co-Author(s): Laura Desveaux, Jonathan Mitchell, Jay Shaw, Noah Ivers

Physician Services in Canada: How do physicians contribute to the care of Canada's elderly population?
Presented by: **Shanna DiMillo**, Data and Research Analyst, Royal College of Physicians and Surgeons of Canada
In Canada, the elderly (aged 65+) exceed those aged 0-14 years, comprising 15% of the population in 2013 and projected to be 25% by 2030. These trends underscore the need for informed medical workforce planning. This study aims to characterize the provision of physician services to Canada's elderly population. The Canadian Institute for Health Information's National Physician Database was used to analyze all fee-for-service care provided to Canada's elderly population (age 65+) from 2002/2003-2013/2014. Population estimates by age group and year were extracted from Statistics Canada (CANSIM). Analysis was stratified by physician specialty (e.g., Orthopedic Surgery), patient age group (e.g., 65-69 years), and service type (i.e., broad and detailed National Grouping System categories). Physician service provision was described using several metrics, including participation rates, overall volume, service intensity, and per capita service delivery. Changes in volume, types of services, intensity, and participation rates over time were also analyzed. In 2013/2014, over 80 million services were provided to patients aged 65+. The number of services delivered to seniors has increased by 26% since 2002. Diagnostic/therapeutic services comprised a sizeable portion of elder care (22%) during the most recent year. Overall, 90% of all physicians delivered care to the elderly in 2013/2014. However, there was an inverse trend between participation rates and patient age (89.7% for 65-69 years vs. 59.7% for 95+ years). In 2013/2014, Family Physicians and Internists provided the highest volume of care with 42.0 million and 19.2 million services respectively. Geriatricians and Ophthalmologists devote the largest proportion of their services to the elderly, accounting for 92% and 61% of their services respectively (2013/2014). Virtually all physicians care for the elderly, but there are distinct cross-specialty variations in service volumes, intensity of elder care and types of services provided. This valuable new information can be used to inform and enhance medical workforce planning in response to the needs of our aging population.
Co-Author(s): Steve Slade, Arun Shrichand, Shanna DiMillo, Danielle Fréchette

Validation of a Case Definition for Depression in Administrative Data Using a Chart Review Reference Standard
Presented by: **Chelsea Doktorchik**, Research Assistant , University of Calgary, Department of Community Health Sciences
The use of administrative health data is growing, as the cost of alternative data collection methods is expensive and time-consuming. This study determined the validity of International Classification of Disease (ICD)-9 and ICD-10 administrative health data case definitions for depression using family physician (FP) charts as the reference standard. Trained chart reviewers reviewed 3362 randomly selected charts from years 2001 and 2004 at 64 FP clinics in Alberta and British Columbia, Canada. Depression was defined as presence of either: 1) documentation of major depressive episode, or 2) documentation of specific antidepressant medication prescription plus recorded depressed mood. Bipolar depression and alternate indications for antidepressants were excluded. The charts were linked to administrative data (hospital discharge abstracts and physician claims data) using personal health numbers. Validity indices were estimated for six administrative data definitions of depression using three years of administrative data. Depression prevalence by chart review was 15.9%-19.2% depending on year, region, and province. An ICD administrative data definition of '2 depression claims with depression ICD codes within a one-year window OR 1 discharge abstract data (DAD) depression diagnosis' had the highest overall validity, with estimates being 61.4% for sensitivity, 94.3% for specificity, 69.7% for positive predictive value, and 92.0% for negative predictive value. Stratification of the validity parameters for this case definition showed that sensitivity was fairly consistent across groups, however the positive predictive value was significantly higher in 2004 data compared to 2001 data (78.8% and 59.6%, respectively), and in Alberta data compared to British Columbia data (79.8% and 61.7%, respectively). Sensitivity of the proposed case definition is moderate, and specificity is high, possibly due to undercoding of depression. This finding is supported in the literature. These results suggest that that administrative data can be used as a source of information for both research and surveillance purposes.
Co-Author(s): Chelsea Doktorchik, Scott Patten, Cathy Eastwood, Mingkai Peng, Guanmin Chen, Cynthia Beck, Nathalie Jette, Tyler Williamson, Hude Quan

Measurement and validation of nursing performance indicators in primary care
Presented by: **Émilie Dufour**, Étudiante, Université de Montréal
The objectives are to 1) measure and 2) validate nursing sensitive indicators in primary care from a tracer case in wound care using electronic administrative data. The study takes place in an ambulatory care clinic. The research adopts a correlational longitudinal design over a year where the episode of care is the unit of analysis (n = 482). The indicators were selected from a review of the literature and classified according to Donabedian's framework including structure-process-outcome components. The indicators are 1) nursing follow-up; 2) relational continuity; 3) education activities; (4) initial assessment; 5) consultation with a nurse specialist; (6) frequency of consultations; 7) length of the episode and 8) intensity. The I-CLSC electronic database was used as a data source for measurement and validation. Descriptive analyzes were performed to measure the indicators. Logistic regression models were adjusted to examine associations between process and outcome indicators. The results presented will focus on (1) the measurement of the eight indicators and on (2) the association between process and outcome indicators by presenting confidence intervals and correlation coefficients. The aim of this study is to measure and validate primary care performance indicators from administrative data, in order to develop measurement tools that take into account the specific work of nurses and ultimately improve the quality of care .
Co-Author(s): Émilie Dufour, Arnaud Duhoux, Damien Contandriopoulos

Reliability study of electronic administrative data in primary care nursing

Presented by: **Émilie Dufour**, Étudiante, Université de Montréal

The objective of this study is to assess the reliability of electronic administrative data contained in the I-CLSC software by measuring its concordance with the data contained in clinical records. Administrative data and data from clinical records include performance indicators for primary care nursing services measured in an ambulatory care clinic. The research adopts a longitudinal design over a year and the episode of care is the unit of analysis (n = 107). Because the clinical records in the study were paper files, the extraction of the data was done manually using an extraction grid. Correlation analyzes were conducted to assess the concordance of the data contained in the I-CLSC electronic database and the information contained in the paper files. The results present the measurement of the interrater agreement to assess the level of concordance for indicators under study between the two data sources. A kappa coefficient was measured for each of the indicators studied. The aim of this study is to assess the reliability of current administrative data on primary care nursing, to optimize their use by managers for service organization purposes and ultimately to improve quality care.

Co-Author(s): Émilie Dufour, Arnaud Duhoux, Damien Contandriopoulos

Women's experiences with hospital and community breastfeeding support: an exploratory study

Presented by: **Gillian Elliott**, PhD Student, University of Toronto

In recent years hospitals and Public Health Departments in Canada have implemented programs designed to promote and support breastfeeding. This exploratory study examined the impact of medical, institutional, health policy and professional forces on women's experiences with breastfeeding support.   The data were drawn from 10 semi-structured interviews and 41 in-depth surveys completed by women who initiated breastfeeding. Study inclusion criteria included hospital birth of a healthy, full-term, singleton baby, born past 37 weeks gestation with no known medical conditions that would prevent or contra-indicate breastfeeding. This study was conducted in a region in Ontario, Canada. A combination of purposeful and convenience sampling was used to recruit study participants. Thematic analysis was used for data analysis. The analysis identified five themes that impacted breastfeeding support provision: birth interventions, Baby Friendly Initiative practices, lactation consultants and healthcare provider initiated formula supplementation. The majority of women in the study experienced birth interventions, Baby-Friendly Initiative practices, breastfeeding difficulties, used numerous breastfeeding support services, received support from lactation consultants and gave their baby formula as directed by a healthcare provider. The results provide insight into how birth practices, infant care protocols and professionalized practices influence breastfeeding support and, in turn, impact women's breastfeeding experiences. The findings demonstrate that the women relied heavily on breastfeeding support both in hospital and in the community and experienced a disparity between their expectations and the reality of breastfeeding. The data suggest that conflicts in contemporary breastfeeding support practices and discourses can recreate breastfeeding as a technically challenging process that requires expert intervention, rather than the natural and easy process as it is often portrayed and promoted. These findings provide important insights for hospital and community breastfeeding support services.

Co-Author(s): Gillian Elliott

The Role Of Policy Contexts In The Effect Of Hospital Competition On Performance: A Scoping Review With A Configurative Lens

Presented by: **Nusrat Farhana**, Doctoral Student, Institute of Health Policy, Management, & Evaluation, UofT

Microeconomics promises optimal outcomes through market competition. Although many countries rely on competitive forces in healthcare, it is unclear whether certain policy contexts support the impact of competition on performance. The purpose of this review is to examine the role of policy contexts in the effect of hospital competition on performance. We conducted a scoping review that focused on English language articles investigating the effect of hospital competition on performance in any country covering time period until 2016. We assessed the effect of competition on the IOM dimensions of hospital performance across jurisdictions with varying policy regimes. Our findings suggest that the (i) bulk of the literature comes from the USA, but also includes eleven other countries; (ii) majority of the studies have strong observational designs; (iii) the effect of competition seems to be stronger on efficiency outcomes (relative to other IOM dimensions of performance) and this finding is largely consistent across jurisdictions; (iv) the effect of competition on performance differs depending on policy regimes; jurisdictions with more unregulated choice of providers and better availability of performance information appear to have stronger effect from competition compared to jurisdictions with constrained choice and/or lack of quality information. This review adopts a configurative approach to advance conceptual understanding and allows us to describe the limited relationship between policy contexts and the effects of competition. The findings from this review can be used when considering market oriented reforms to achieve health system outcomes.

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The impact of acute cardiovascular events on employment and income

Presented by: **Randy Fransoo**, Researcher, Manitoba Centre for Health Policy

Acute Myocardial Infarction, Stroke, and Cardiac Arrest are leading causes of mortality, morbidity, and health service use - but also affect employment and income. The objective of this study was to quantify the impact of these events on employment and personal income levels three years after hospitalization. This study used a unique new linkage of three national datasets: hospital abstracts, mortality data, and personal income tax records, all housed at Statistics Canada (Quebec data not included). Hospital Discharge Abstract Data was used to identify cases of each of the three conditions, using ICD codes. For all patients that survived to three years post hospitalization, we examined employment status and personal income level as reported to the Canada Revenue Agency. We used a difference-in-differences approach with coarsened exact matching to compare 40-61 year olds experiencing these health events to matched controls. Employment and personal income levels declined slightly for controls, but considerably for people experiencing AMI, stroke or Cardiac Arrest. Patients were 5-20 percentage points less likely to be employed in the third year after the event, and reported annual earnings that were 8-30 percent lower than matched controls not experiencing any of these events. Of the conditions studied, stroke had the highest impact on employment and income. The study also examined heterogeneity of effects in sub-groups stratified by age, sex, and pre-event income level. Mortality rates for cardiovascular conditions have declined steadily for over 30 years in Canada. However, less is known about non-health related outcomes, largely owing to a lack of appropriate data to study these effects. Our results demonstrate significant employment and financial impacts of AMI, stroke, and cardiac arrest among survivors.

Co-Author(s): Randy Fransoo, Claudia Sanmartin, Theodore Iwashyna, Damon Scales, Hannah Wunsch, SungHee Jeon, Michelle Rotermann, Michael Stepner, Allan Garland

Exploring "Rapid Repeat Pregnancy" in Adolescent Mothers Living in Ottawa, Canada.

Presented by: **Elyse Fortier**, MSc. Candidate , University of Ottawa

Adolescent mothers and their children face economic, social, and health challenges. These challenges are amplified when they have subsequent children. The circumstances surrounding "rapid repeat pregnancy" among teenage mothers remain unclear. This project aims to shed light on risk factors associated with subsequent pregnancies among young mothers living in Ottawa. We conducted a qualitative study exploring the circumstances and decision making of adolescent mothers who have experienced subsequent pregnancy. We recruited young mothers living in Ottawa who were 25 years of age or younger, had conceived their first child before the age of 20, and had a subsequent pregnancy within 24 months of the birth of their child. We also recruited key informants who work with teenage mothers. We conducted 10 in-depth interviews with young mothers and 10 in-depth interviews with key informants. We analyzed our results for content and themes using deductive and inductive techniques. Preliminary findings suggest that some young mothers are not using contraceptives following the birth of their child or are not compliant with the chosen contraceptive modality. Young mothers often access information regarding contraception from their peers. This leads to misinformation surrounding contraception especially in regards to long acting reversible contraceptives. Moreover, many factors go into the decision making of young mothers surrounding their pregnancies. Every experience is unique and requires individualized attention. There is a need for sex-positive contraceptive counselling among youth. Contraception knowledge and resources should be easily accessible to young mothers. There are many resources available to adolescent mothers in Ottawa. However, health care providers and adolescent mothers are not aware of all the resources that they can access.

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MindTheHeart Project - A gender sensitive stepped-care model for cardiac and mental comorbidity in men: Findings from New Brunswick

Presented by: **Lise Gallant**, Research Coordinator, Université de Moncton

Considering the increasing prevalence of cardiac and mental comorbidity (CMM), especially among men, and the call for more contextualized evidence for New-Brunswick (rurality, low literacy and higher rates of poverty), a cornerstone for the ongoing primary care reform is to engage key stakeholders in the implementation of gender-sensitive stepped-care model. An exploratory qualitative approach was used for gathering in-depth knowledge about key stakeholders' needs, expectations and preferences. In Total, 12 focus groups were held (68 men with or without CMM) and 20 semi-structured interviews with healthcare professionals and managers at all levels of the healthcare system. NVivo 11 was used for managing the interpretative phenomenological analysis process. We performed a triangulation of the gathered information to answer the research question: What dimensions are critical for tailoring stepped-care models to better answer needs and expectations of men with CMM, while containing costs and reducing professional and organizational resistance for change? Gender role socialisation and lack of time were considered as major barriers to mental health access from both men and service provider's perspective. From the men's perspective, services offered outside working hours or at work with a focus on action oriented messages, short visits, group psychotherapy (8 sessions) and involvement of the life partner are recommended. From the healthcare professionals and managers' perspective, the proposed model appears to be a cost-effective way in bridging the gap in current cardiac and mental services. Implication of nurses and social workers would be preferred when less intensive treatment is needed. The viability and efficiency of the model would depend on its integration in existing cardiac and mental health rehabilitation services with direct link to treating family physicians. Delivering gender-based mental health services may provide a pathway to reach vulnerable populations such as men to access mental health care following a major cardiac event. Hence, further research is needed to evaluate the efficiency of this approach in primary health care to better adapt existing services for cardiac patients.

Co-Author(s): Lise Gallant, Sarah Nowlan, Jalila Jbilou, France Talbot, Monique Dufour-Doiron

Out-of-Pocket Spending for Mental Health Reasons: Mental Disorders, Medication Use, and Insurance Coverage

Presented by: **ISABEL GARCES DAVILA**, STUDENT, University of New Brunswick

This study´s objective was to examine the factors related to out-of-pocket spending for mental health reasons. Diagnosis of mental disorders (depressive and substance use disorders), medication use, and insurance coverage were included as factors related to out-of-pocket spending. Satisfaction with mental health services was also examined related to out-of-pocket spending. A secondary analysis of data from the Canadian Community Health Survey – Mental Health Component was conducted to examine out-of-pocket spending, mental health care utilization, satisfaction with mental health services, and diagnosis of mental disorders. It was hypothesized that those with mental disorders who sought help from different types of professionals (i.e., family doctors, psychologists), and who received more hours of consultation would have reported out-of-pocket spending. This study included respondents aged 15 and over in CCHS-MH. The analyses were weighted to ensure the sample was representative of the Canadian population, and a series of correlations and regressions were conducted. The results indicated that out-of-pocket spending for mental health reasons was related to mid-to-high household income (e.g., $100,000 or more) and medication use. In addition, the results indicated that lack of insurance coverage (i.e., coverage for prescriptions and consultation with psychiatrists, psychologists) and medication use increased the likelihood of out-of-pocket spending among those with mental disorders. Out-of-pocket spending increased the likelihood of reporting higher levels of satisfaction with psychiatrists. Our study provides information about insurance coverage and out-of-pocket spending for mental health reasons. We highlight the relation between satisfaction with professional mental health care and out-of-pocket spending. Implications for insurance coverage in terms of hours of consultation and different types of services (e.g., psychologists, family doctors) are discussed.

Co-Author(s): ISABEL GARCES DAVILA, Mateo Peñaherrera

Trends in Standardized Mortality among Individuals with Schizophrenia from 1993 to 2012: A Population-Based, Repeated Cross Sectional Study

Presented by: **Evgenia (Jenny) Gatov**, Epidemiologist, Institute for Clinical Evaluative Sciences

We examined all-cause and cause-specific mortality time-trends and premature mortality in individuals with and without schizophrenia over a 20 year period. In this population-based, repeated cross-sectional study, we identified all individual deaths that occurred in Ontario between 1993 and 2012 in persons ages 15 and over (31,349 deaths in persons with schizophrenia and 1,589,902 deaths in those without). We plotted overall and cause-specific age-sex-standardized mortality rates (ASMR), stratified all-cause ASMR trends by sociodemographic characteristics, and analyzed premature mortality using years of potential life lost. Additionally, we calculated mortality rate ratios (MRR) using a negative binomial regression adjusted for age, sex, income, rurality, and year of death, and examined differences in time-trends using an interaction term in the model. Individuals with schizophrenia experienced 3 times greater mortality rates, compared to those without (adjusted MRR, 3.12; 95% CI, 3.06-3.17). All-cause ASMRs in both groups declined in parallel (interaction between schizophrenia status and time p>0.75) by about 35%, and were elevated in men, in those with low income, and in rural dwellers. The absolute ASMR difference declined throughout the study period (from 16.2 to 10.5 deaths per 1,000 persons). Cause-specific ASMRs were greater in those with schizophrenia, with circulatory conditions accounting for most deaths between 1993 and 2012, while neoplasms became the leading cause of death for those without schizophrenia after 2005. Individuals with schizophrenia also died, on average, 8 years younger than those without, and lost more potential years of life. While individuals with schizophrenia have experienced declining mortality rates over the past two decades, specialized approaches may be required to close the persistent three-fold gap.

Co-Author(s): Evgenia (Jenny) Gatov, Laura Rosella, Maria Chiu, Paul Kurdyak

Quality Improvement Plans in Ontario: a post-submission evaluation of stakeholders

Presented by: **Jorge Ginieniewicz**, Program Analyst, Health Quality Ontario

The Health Quality Ontario Quality Improvement Plan (QIP) program is one of the largest, jurisdiction wide quality improvement efforts in the world. Analysis was conducted on how QIPs support the QI initiatives of the 1,000 + organizations that submit a QIP annually, using a post-QIP submission evaluation of stakeholders. We will report on results from data (gathered using an online platform) from three different surveys: 1) Board Chairs; 2) Chief Executive Officers (CEOs), Executive Directors (EDs) and Administrators; 3) Quality Improvement (QI) Leads. The completion rate for the three surveys was approximately 35%. Respondents included 92 Board Chairs, 273 CEOs, EDs and Administrators, and 357 QI Leads. Data was collected between May and June of 2016 and the questionnaires included a mix of closed and open-ended questions. Quantitative data were analyzed using basic descriptive measures and crosstabulations. Qualitative data were analyzed through thematic analysis, using NVivo10 when required. Board Chairs reported QIPs have a positive impact on a number of areas, with nine out of ten respondents mentioning that QIPs supported the improvement of performance in the organization. Issues related to obtaining and understanding data as well as lack of QI knowledge among Board members were considered the top barriers to QIP development/approval. Among CEOs, EDs and Administrators, about seven out of ten respondents "agree" or "strongly agree" that QIPs promote a "quality driven culture"; "competing priorities" (82%) and "insufficient funding" (59%) were cited as challenges. The majority of QI Leads were aware of QIP-specific resources and found them useful. They identified data-related issues, lack of QI culture, reporting cycle challenges and insufficient resources as barriers faced by organizations while developing the QIPs. Results affirm how this unique program facilitates quality improvement from different stakeholder's perspectives, and areas for improvement. Stakeholders agreed that the program supports performance improvement, helps drive a quality driven culture, and provides valuable resources. Stakeholders recommended the program do more to encourage QI dialogue and patient engagement.

Co-Author(s): Jorge Ginieniewicz, Kerri Bennett, Sara Clemens, Lynn Dionne, Laurie Dunn, Lee Fairclough, Sudha Kutty, Danyal Martin, Millward Margaret, Jyothie Naidu

Using hospital readmission data to identify opportunities for improving health system performance

Presented by: **Yanyan Gong**, Project Lead, Canadian Institute for Health Information

Readmissions to acute care facilities are increasingly being used to measure institutional or regional quality of care and care coordination. The readmission indicators routinely reported by Canadian Institute for Health Information (CIHI) can be used to identify areas for improving care quality and reducing readmission rates.   The all-cause readmission rates following an acute care hospitalization have been publically reported at facility, health region, province and national levels; and for medical, surgical, obstetric, paediatric patients separately. The CIHI clinical administrative databases are used to calculate these indicators. Medical, surgical, and obstetric patients were defined by their major clinical category (MCC) codes; patients younger than 19 years are considered paediatric. Patients' demographic characteristics, case mix, and reasons for readmissions in the most recent 5 years were examined. The 30-day overall readmission rates have remained stable in the most recent 5 years (2011-2012 to 2015-2016), at around 9%. Readmission rates for medical patients were the highest (13%); followed by rates for surgical and paediatric patients (7%); and obstetric patients (2%). The overall readmission rates in 2015-2016 ranged from 8% to 17% among health regions. The main reasons for readmissions were similar over the 5-year period for all patient groups: chronic heart, respiratory, and other conditions accounted for 27% of the readmitted cases for medical patients; infections and post-procedural complications accounted for one-third of all readmissions for surgical patients; respiratory infections and post-procedural complications (33%) were among the main reasons for paediatric patients; and postpartum infections (including sepsis) and hemorrhage (33%) for obstetric patients. The reasons for hospital readmissions remained unchanged over the 5-year period. With chronic conditions better managed in primary care and infections better prevented, the readmission rates can be reduced substantially. CIHI offers a secure online tool (YourHealthSystem Insight) for organizations to look into readmission data and identify areas to reduce readmission rates.

Co-Author(s): Yanyan Gong, Yana Gurevich, Ling Yin

Comparison of Self-Report vs. Administrative Data in Defining Multimorbidity

Presented by: **Lauren Griffith**, Associate Professor, Department of Health Research Methods, Evidence, and Impact, McMaster University

While researchers have examined agreement between self-reported and administrative data on individual conditions, few have looked at the impact on multimorbidity. We examine multimorbidity measure agreement between administrative data and self-reported CCHS data from Ontario, factors associated with variations in agreement, and the impact on prevalence and service use estimates. We will use data from Ontario participants 65 years and older from three waves of the Canadian Community Health Survey (CCHS) linked with multiple administrative databases from the Institute for Clinical Evaluative Sciences to describe multimorbidity; defined using the most common definitions, 2+ and 3+ chronic conditions. Fifteen chronic conditions (CCs) will be assessed using validated algorithms developed for use with administrative data compared to self-reported clinical diagnosis available from CCHS. Socio-demographic data from the CCHS waves will be used to identify factors associated with disagreement on multimorbidity status between data sources and estimates of prevalence and health service use. Preliminary analyses were conducted on the 7,723 Ontario participants 65 years and older of the 2008 CCHS, of which 58% were female and 50% were over 75 years old. Multimorbidity estimates were based on 15 CCs: anxiety/depression, arthritis, cancer, COPD, dementia, diabetes, hypertension, IBD, IHD, liver disease, osteoporosis, renal disease, stroke, cerebrovascular disease, and upper gastrointestinal bleed. Based on their linked administrative data, the most common CCs were hypertension (71%) and arthritis (61%). Over 72% had 2+ and 44% had 3+, with an average of 2.4 CCs, which is similar to other population-based estimates generated from CCHS data. The next steps are to expand the dataset to include the other two CCHS waves, and compare these results to the self-reported data in CCHS. Disagreement between self-report and administrative data is large for many individual CCs, particularly diseases with low prevalence; however the impact on multimorbidity estimates is uncertain. This study will shed light on factors associated with disagreement on multimorbidity status between data sources and on prevalence and health service use estimates.

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Distributed versus centralized leadership in the implementation of Ontario's Health Links

Presented by: **Jennifer Gutberg**, PhD Student, Institute of Health Policy, Management, and Evaluation, University of Toronto

Traditional notions of leadership involve centralized power at senior levels, with strategy/vision communicated to operational levels. To date, evidence on how traditional centralized leadership impacts the implementation and functioning of integrated care networks is unclear. There is a need to understand different forms of leadership across organizations involved in integrated care. We conducted semi-structured interviews as part of a six case study evaluation of the implementation of Health Links (HL), a "low-rules" integrated care initiative in Ontario. Our analysis of the qualitative data provides insight on leadership in the HL context and provides perspectives on how leadership impacted the success of HL implementation. Our analysis draws upon both traditional and process- or action-oriented theories of leadership that look beyond senior leadership (e.g., distributed and shared leadership, complexity leadership theory). These latter theories posit that non-formal leaders are critical to the functioning of complex organizations and systems. Preliminary results show that leadership was highly centralized in the implementation of HL and concentrated almost exclusively at the senior level, including governance committees composed of CEOs and senior management. The highly centralized leadership remained important in HL, despite efforts to develop capacity for distributed leadership throughout the partner organizations. Centralized leadership at times impeded front-line workers from understanding HL goals and effectively integrating care. Key factors influencing the nature of leadership included insufficient education and communication regarding HLs, lack of delegation of operational tasks, and failure to meaningfully seek out front-line support. Overall, there was limited ability within the organizations to sustain the integrated care effort without an "overreliance" on senior leadership to drive the initiative forward. Efforts to implement 'low rules' integrated care initiatives may require a more distributed approach to leadership. Though senior leadership is critical in setting a vision for integrated care networks, failure to develop distributed leadership may undermine Health Links, which rely on new and more effective connections between different providers.

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Policies and programme innovations that connect primary health care with social services and community supports in Canada: A comparative policy analysis

Presented by: **Emilie Dionne**, Research Coordinator, IMPACT

Comprehensive management in primary health care for complex patients often requires integration with social services and community supports. This comparative analysis reviews governance and policies in Canadian provinces that contextualize multi-service integration programs for children and youth with high functional needs and community-dwelling older adults experiencing functional decline. We will use Nominal Group Process to identify high priority services to be connected for each of our two patient populations. We will describe the relevant governance structures and regulatory frameworks that influence actions of the workforce to connect these services in each province. We will select about 20 publicly-funded programs where system alterations were made explicitly to connect primary health care services with social and community services for our target populations. The specific policy instruments used to enhance integration will be explored. Finally, we will estimate the degree of resultant integration and evaluate the extent of implementation success. A database will be created that will assist with the identification of the institutional authorities, regulatory frameworks and workforce organization for each service within the selected public programs. In our description, we will make explicit the structural variation in service entities and governance structures across provinces, in addition to indicators of readiness for spread or scale up associated with integrated multi-service delivery innovations across jurisdictions. An analysis within and between selected publicly funded programs will identify those policy instruments most frequently adopted to promote change, and the characteristics of the program that correlate with more successful implementation and greater health-social-community integration. This study will provide a cross-provincial description of the policy context and key factors enabling integration across health-social-community services in Canada. The results will accelerate cross-provincial learning and research on integrated care solutions, especially in the context of the Canadian SPOR Network in Primary and Integrated Health Care Innovations (PIHCI).

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Preventing rheumatoid arthritis: a general population pilot study on perspectives of the risk of developing the disease and potential preventative interventions

Presented by: **Mark Harrison**, Assistant Professor, University of British Columbia

To determine the features of a preventative treatment program for people at high risk of RA that is likely to drive demand in pre-symptomatic people. We focus on preferences for treatment, the values and most important attributes of preventative treatment programs, and the likely uptake of preventative treatment. Discrete choice experiment in a US general population sample. Participants asked to imagined they had been tested as high risk for developing RA, and then asked to choose between sets of 2 hypothetical preventative RA treatments, then between their preferred treatment and 'no treatment for now'. The treatment (risk reduction, way treatment taken, side effects, certainty in estimates, health care provider's opinion) and test attributes (chance test is wrong, who recommends treatment) were identified in focus groups. Responses were analyzed using a conditional logit regression model to estimate the significance and relative importance of attributes in influencing preferences. 201 respondents completed all tasks in the survey. The majority were 25-54 years old (modal age category 30-39 years (38%)), and 50% were female. 23 members (11%) reported having a physician diagnosis of RA, and 91 (45%) had a family member or close friend with RA. All attributes' levels significantly influenced treatment preferences, but the risk reduction, the way treatment is taken, and health care provider's preference were most influential. Respondents were most willing to trade a reduction in risk of RA for a treatment preferred by their health care professional and oral route of administration. Respondents had similar strength preferences for reducing uncertainty in evidence and reducing risks of side effects. The preferred preventative treatment was chosen over no treatment in 67% of choices. How a treatment is taken and preferences of their health care providers are as important as benefits, highlighting the importance of agency and perceived asymmetry of information. Knowledge of these factors will help policymakers predict the acceptability and uptake of preventative treatment strategies will be acceptable to target populations.

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Facilitators and Barriers to the Use of Licensed Practical Nurses in Alberta Health Services

Presented by: **Stephanie Hastings**, Senior Consultant, Alberta Health Services

The goal of the current study was to examine the roles and opportunities for Licensed Practical Nurses (LPNs) in different practice settings within Alberta Health Services (AHS). Specifically, we examined LPNs' utilization in emergency departments (EDs), mental health (MH) units, and labour and delivery (L&D) units. Phase 2 of the study, reported here, involved interviews with frontline, management, and leadership staff on units with and without LPNs. We also interviewed individuals involved in developing and interpreting scope of practice policy. The goal of the interviews was to examine how decisions about LPN staffing are made, what barriers and facilitators affect LPNs' ability to work to their full scope of practice, and how decisions are made about what activities LPNs are allowed to perform. We conducted a total of 89 interviews across 13 units and all five AHS zones. LPNs were generally satisfied with their jobs and felt confident in their work. LPNs identified some gaps in their own education that needed to be filled through work experience. Non-LPN interviewees were often unfamiliar with LPNs' formal education and preparation for working in specialty units. Many non-LPNs were ill-informed about LPNs' scope and noted challenges in accessing accurate information about activities LPNs are allowed to perform. Some units provide the same orientation to LPNs as to Registered Nurses (RNs), whereas others provide extensive orientation to RNs and very limited orientation to LPNs. Some units without LPNs were open to introducing them whereas others were adamantly opposed to it. Confusing policies and misinterpretation of regulatory college guidelines influenced some units' ability to fully utilize LPNs. Decisions about LPN utilization seem to be made at a site or unit level, rather than in a systematic manner led by organizational policy. Information about LPNs' education and scope of practice is needed to increase their representation across the province and their acceptance by other nursing providers.

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Is increasing physician supply the key to solving access/provision challenges in primary health care in British Columbia?

Presented by: **Lindsay Hedden**, Postdoctoral Research Fellow, Centre for Clinical Epidemiology and Evaluation

Reports of access issues in primary health care are ubiquitous in British Columbia (BC); however, per capita physician supply has been increasing since 1986. We examine the extent to which workforce feminization, aging, and secular period effects may explain the conflicting observations of increasing supply and access difficulties. This is a population-based, retrospective cohort study. We used fee-for-service (FFS) and alternative payments (non-FFS) billings for all primary care physicians (PCPs) in BC for the years 2005/6-2011/12. We modeled the trend in per-physician remuneration, patient contact counts, and practice size using longitudinal multivariate mixed effects linear models. Models included gender and age, and adjusted for training/practice locations, and the proportion of payments from non-FFS sources. We simulated differences in population-level spending on physician services, patient contacts, and per-physician practice size attributable to shifts in workforce demographics and secular period effects, accounting for the overall growth in the physician population. We found limited change in per-physician remuneration over the study period, after taking out the effects of changes in fee levels; however, total patient contact counts and per-PCP practice sizes declined by 10% (111,577 total contacts/year) and 13% (38 patients/physician/year) respectively. Although workforce feminization, and to a lesser extent aging, contributed to these declines, the primary driver is a broad secular trend toward reduced clinical activity over time. Removing the effect of this trend while allowing for demographic shifts would have resulted in an additional 2.03 million patient contacts by 2011/12, the equivalent of one additional physician visit for half of BC's population. Despite overall growth in PCP supply in BC, shrinking per-physician levels of service delivery and practice size have meant that increased supply has not kept pace with demand. Workforce feminization and aging contributed to reduced supply, but their effects were dwarfed by the secular decline in activity levels over time.

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Examination of the Blaylock Risk Assessment Screening Score (BRASS) in Predicting 30-day Readmission: An Analysis of Administrative Data

Presented by: **Marilyn Hodgins**, Associate Professor, Faculty of Nursing, University of New Brunswick

Project objectives were to describe rate of 30-day hospital readmission, examine characteristics of patients readmitted within 30 days of a discharge to home, and evaluate utility of Blaylock Risk Assessment Screening Score (BRASS) in predicting length of hospital stay and 30-day readmission. Unplanned readmission within 30-days of discharge warrants preventive measures because it is costly to the healthcare system and to patients and their families. However before such measures can be put in place, those at risk must be identified. Project involved analysis of 13-months of administrative data and 19,351 discharges from one tertiary hospital. BRASS was completed on admission with scores computed based on responses to 10-items. Scores range from 0 to 40 with higher scores indicating increased risk for problems. Patients attaining scores of 10 or higher viewed as requiring more extensive discharge planning. Descriptive and correlational analyses were conducted. Data included 1,604 30-day readmissions representing 8.3% of all discharges. Cases with BRASS of 10 or higher were less likely to be discharge home (58.7%) than those with scores less than 10 (88.5%). Using 10 as cut-point, sensitivity and specificity as well as positive and negative predictive values (PV) of BRASS were computed for hospital stay 30 days or longer and readmission within 30 days of first discharge to home. Results for specificity and negative PV indicate BRASS did relatively well at predicting those who did not experience problems. However, low percentages for sensitivity (11.2% to 13.8%) suggest many patients who experienced problem were classified as low-risk. Similarly, low positive PV (8.4% to 11.6%) suggest many classified as being at risk did not experience problems. The reported rate of 30-day readmission is likely conservative as analysis involved data from only one acute care facility. Although findings support the utility of the BRASS in predicting length of hospital stay and discharge disposition, they raise questions about its utility in identifying patients at risk of readmission.

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Use of Acute Care Services within 30-days of Hospital Discharge: An Analysis of Administrative Data

Presented by: **Marilyn Hodgins**, Associate Professor, Faculty of Nursing, University of New Brunswick

Project objectives were to examine the incidence of acute care service use (i.e., hospital readmission or emergency department visit) by patients within 30 days of a discharge to home and to describe the demographic and clinical profile of these patients. Unplanned re-entry into the acute care system by recently discharged patients is costly not only to the healthcare system but also to patients and their families. Unplanned re-entry has been described as an indicator of treatment failure (i.e., deficiencies in the discharge process) and as being potentially preventable. Project involved descriptive and correlational analyses of 13-months of administrative data and 19,351 discharges from one tertiary hospital. The median number of hospital discharges per day was 46 but ranged from 5 to 82 per day. The majority of these discharges (84.6%) was to a home or home-like setting. There were 1,604 hospital readmissions within 30-days of discharge, representing 8.3% of all discharges. The number of 30-day readmissions experienced by patients ranged from 0 to 8. The odds of 30-day readmission was higher for men than women. Although the odds of readmission was lower for those less than 35 years of age, no significant difference was observed in the odds of readmission among older age groups (35 to 64, 65 to 79, 80 years or older). Approximately one-third (36.7%) of 30-day readmissions involved those aged 35 to 64 years. Of cases discharged home, 12.2% (n = 2,004) returned to emergency department (ED) within 30 days. Almost half of these ED visits occurred within 7 days with more than 200 within 24 hours of discharge. Reported rates of re-entry are likely conservative as analysis involved data from only one acute care facility. An unexpected finding was the high rate of re-entry by patients aged 35 to 64 years, which challenges the assumption that problems during the transition from hospital to home primarily involve the elderly.

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Spending wisely: Home care Reassessment Intervals and Cost in Ontario

Presented by: **Sophie Hogeveen**, PhD Candidate, School of Public Health and Health Systems, University of Waterloo

With an aging population and increased focus on home and community care, questions are raised about how best to allocate limited resources. We sought to answer two common misperceptions about home care assessments: 1) Are we doing too many assessments?; 2) Are we spending too much on assessment? In Ontario, long-stay home care patients are assessed using the RAI-Home Care (RAI-HC). For the first question, RAI-HCs completed in years 2012-2014 were retrieved and linked to a subsequent assessment (N=63,653). Change in key outcome scales between assessments was calculated. To answer the second question, RAI-HCs completed in years 2012-2014 were linked to a billed services record (N=288,278). Hours or number of home care visits were aggregated from the assessment date until the next assessment/discharge. Service volumes were multiplied by region-specific costs for providing each service. Assessment cost was based on the assumption that an assessment requires two hours, at a fixed rate. 82% of home care patients experienced any change in either cognition, functional status, depression symptoms, pain, health instability and risk of caregiver distress or long-term care placement within 6 months of prior assessment. 57% of home care clients experienced any decline and 52% experienced any improvement. The sum of cost of assessment was divided by the sum of cost of care (assessment and services) provided. 1.56% of total cost of care was spent on assessment. In other words, less than 2% of money spent on home care clients was devoted to their assessment with the RAI-HC. Results were consistent across type of assessment and region. Regular assessments are needed to capture change in health status for individual care planning and health system planning. Further, the relative cost of assessment is low. Eliminating duplication of assessments and improving sharing of information throughout the health care system can make the assessment process more efficient.

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A Critical Reflection Upon Cancer Disparities Among Indigenous Peoples in Canada: Looking Beyond Individual Risk Factors

Presented by: **Tara Horrill**, PhD Student, University of Manitoba

To critically analyze the evidence informing our understanding of disparities in cancer diagnosis, survival and mortality between Indigenous peoples and non-Indigenous peoples in Canada. Critical analysis of health services and policy literature regarding cancer among Indigenous peoples, beginning with a search of peer-reviewed published and grey literature specific to cancer among Indigenous peoples in Canada (First Nations, Métis, Inuit). Selection process was guided by an Indigenous librarian. We sought to look beyond analysis of biomedical and lifestyle risk factors, to evidence supporting a social, political and ideological understanding of health disparities in this population; therefore, we intentionally selected literature that moved beyond a traditional biomedical approach to understanding health disparities. The literature was reviewed for social, political and ideological factors influencing the cancer experience. Three groups of factors were identified that may influence cancer-related disparities among Indigenous peoples in Canada, including: (1) access barriers, which included (a) physical/geographical access to health services (location and availability of services) and (b) systemic structural mechanisms relevant to access; (2) federal/provincial funding and jurisdictional ambiguities; and (3) neoliberal ideologies underpinning the health care system. Neoliberal ideologies place primary importance on the individual, focusing on micro-level causes of poor health (genetics, lifestyle choices). These results indicate alternate influences on cancer-related disparities, which move beyond the individual level to the broader social, political and historical context of Indigenous health.   The Truth and Reconciliation of Canada report invites healthcare leaders to consider historical and political influences on health. This critical analysis suggests cancer-related disparities cannot be understood or addressed solely through a biomedical lens. An individualistic focus takes Indigenous health concerns out of context and limits health care reform possibilities.

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An examination of team-based primary care and self-reported unmet healthcare need in Ontario and Quebec

Presented by: **Jongnam Hwang**, Assistant Professor, Daegu University

Despite substantial efforts to transform primary health care from single practice to team-based care, minimal research has investigated the association between team-based primary health care and unmet healthcare need in Canada. This study aimed to examine the relationship between team-based primary healthcare and self-reported unmet healthcare in Ontario and Quebec. We used cross-sectional survey data from the 2008 Canadian Survey of Experiences with Primary Health Care (CSE-PHC) collected by Statistics Canada. Data included information on Canadians' experience with primary health care and health conditions. A total 3,441 of Ontario and Quebec residents were included in the sample. To compare unmet need by team-based care and non-team based care (i.e. single practitioner), an optimum 1:1 Propensity Score matching (PSM) was done to adjust for age, sex, education, employment, income, self-rated health, health status, and etc. After PSM, logistic regression was conducted to compare the association of team-based care on unmet need. Before PSM, 205 individuals (5.95%) among a total of 3, 441 respondents reported an experience of unmet healthcare need in the past year while 114 individuals (6.5%) among a total of 1,770 respondents reported an experience of unmet healthcare need in the past year after PSM. Before matching, Ontario and Quebec residents who were treated by team-based care providers were less likely to report unmet healthcare need in the past year (OR: 0.53; 95%CI: 0.39-0.71). After PSM, residents who were treated by team-based care were still less likely to report experiencing unmet healthcare need (OR: 0.59; 95%CI: 0. 40-0.86) compared to those being cared for by providers in a single practice. The findings from this study suggest that provision of team-based care is a possible solution to address unmet healthcare need in Canada. This also implies that expanding and encouraging team-based care setting in Canada may improve equity in access to primary care.

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Is the North at a Higher Risk! Challenging a Long Held Assumption in First Nations Health in Manitoba

Presented by: **NASER IBRAHIM**, Research Associate, University of Manitoba

To measure the change over time (1986-2014) in the hospitalization rates for acute, chronic and mental health Ambulatory Care Sensitive Conditions (ACSC) in Northern (isolated) and Southern Manitoba First Nations (FN) communities; and determine whether isolated Northern communities have higher hospitalization rates compared to Southern FN communities and all Manitoba. A retrospective study utilizing administrative health data collected by the Ministry of Health. The study population included all Manitoba residents eligible under the universal Manitoba Health Services Plan and living in FN communities or urban Manitoba between 1986 and 2014. A population-based time-trend analysis of hospitalization for acute, chronic, and mental health-related ACSC (controlled for age, sex and socioeconomic status) was conducted using de-identified administrative claims data housed at the Manitoba Centre for Health Policy. Hospitalizations rates for acute and chronic ACSC are decreasing over time in the southern and Northern FN communities and in all Manitoba. However, the rates are significantly higher in the southern compared to the Northern FN communities which are higher than the rest of Manitoba. Alarmingly, the hospitalization rates for mental health related conditions (Mood disorder and schizophrenia) are significantly increasing over time in the Southern FN communities while they are relatively stable in the Northern FN communities and in all Manitoba. Overall, the rates for all investigated ACSC are significantly higher in the Southern and the Northern FN communities compared to all Manitoba.   Policy and decision-makers need to be aware that health outcomes in FN communities do not appear to be dependent on isolation level only. More studies are needed to determine the relationship between levels of access to care, type and extent of community based care and health outcomes.

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Accelerating Surgical Quality Improvement in Ontario

Presented by: **Tricia Beath**, Quality Improvement Specialist, Health Quality Ontario

Health Quality Ontario launched the Ontario Surgical Quality Improvement Network (Surgical Network) to support Ontario's surgical teams participating in the National Surgical Quality Improvement Program (NSQIP) as they learn to use their benchmarking data, build their capacity for quality improvement (QI), and implement improvement activities. Capacity for QI: The first 18 hospitals of the Surgical Network completed an Initial and Follow-Up QI Capacity Assessment. Baseline results were compared to progress results to measure for change in QI capacity following 18-months participation in Surgical Network activities. Planning and Tracking Surgical QI: Using NSQIP data, surgical teams identified improvement opportunities and leveraged Surgical Network supports to accelerate changes in surgical outcomes. Teams captured and shared their work using a Surgical Quality Improvement Plan (SQIP). Teams created their SQIP in September 2015, provided a progress report in March 2016, and completed a year-end report in September 2016. Results to date: There was a 0.30 point increase in self-reported QI capacity From 12 to 17 teams with training in QI methods and/or access to QI resources From 8 to 13 teams that collaborate in QI From 13 to 17 teams engaged in evidence-based care From 14 to 17 teams engaged in their hospital's QI plans 13 teams chose surgical site infection reduction in their SQIP; by year-end, 7 reported an average decrease of 10%; 4 met/exceeded their target Change ideas included implementation of ERAS; participation in CPSI audit; normothermia 4 teams chose urinary tract infection reduction in their SQIP; by year-end, 3 reported an average decrease of 51%; 1 exceeded their target Change ideas incuded implementation of ERAS; reducing use/duration of use of catheters; prevention protocol Members of the Surgical Network have demonstrated an increase in their capacity for QI. This improvement has supported members in the implementation and acceleratation of change in their hospitals as is captured in their SQIPs, and has aligned surgical QI efforts across Ontario.

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Closing the gap between health promotion/prevention and clinical services in primary care: Lessons from a strategic community health needs assessment in NB

Presented by: **Jalila Jbilou**, professor, Université de Moncton

Discuss drivers and challenges of community health needs assessment strategy (CHNA) Identify political, structural, and symbolic dimensions of integration between health promotion/prevention and clinical services in primary care in a context of strategic CHNA Discuss key recommendations for healthcare managers in New Brunswick and elsewhere in Canada A mixed method within the Donabedian Framework and using comparative case study involving four communities in New Brunswick. Secondary analysis of existing databases combined to data gathered from focus groups and semi-structured interviews with key informants, and deliberative forums for results validation and health priority setting. Participatory observational analysis was performed. Data triangulation was done to validate data and research by cross verifying the same information. This triangulation of data aimed to increase credibility and validity of the discussed key recommendations Quantitative data were gathered from existing surveys and provincial administrative databases. Qualitative data were gathered from four communities (2 semi-urban, 1 rural and 1 urban) were included for a total of 29 focus groups (373 participants) and 13 semi-structured interviews. Cross analysis and validation of qualitative and quantitative data show major intercommunity health disparities, differences in social realities and challenges, inconsistency in healthcare and social services, CHNA process' ownership and understanding, hidden local agendas, and timing. These dimensions were major challenges for the CHNA. Political, structural, and symbolic issues underlie to the integration of preventive services in primary care. These issues are not only related to structural/organizational aspects but also to inter-sectors and intra-sectors dynamics (information flow, budgets, jurisdictions…). Inter-sector and intra-sector coordination and collaboration: Formal contract and informal strategic collaborative network ties need to be identified at early stages Strategic data management: Importance to involve patients/population and clinicians in data validation to better understand local realities and expectations Political issues: Democratic deliberative processes are cornerstones

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Patient Utilization of General Practitioner and Emergency Physicians Based on Distance from Ophthalmologists' Offices

Presented by: **William Jeon**, Master's Student, University of Toronto

Eye care services in Prince Edward Island (PEI) are government-insured if provided by general practitioners (GPs), emergency department (ED) physicians or ophthalmologists. Ophthalmologists' offices are unevenly distributed across PEI. We investigated if remoteness from ophthalmologists' offices in Charlottetown influenced patients' utilization of GPs/ED for ocular problems. PEI physician billing database from 2010-2012 were analyzed. Ocular conditions were recognized using International Classification of Diseases (ICD-9) codes. Specialty codes were used to identify practitioner's specialty. Five regions (Charlottetown, Kings & Queens, Prince, Stratford and Summerside) identified by their first-three alphanumeric characters of the postal codes were examined. Location of ophthalmologists' and optometrists' offices were mapped. Utilization of GPs and ED for ocular concerns and prevalence of ocular conditions were analyzed by including and excluding ICD-9 code for diabetes as part of the ocular conditions. All rates were age-standardized and 95% confidence interval was used for comparison between regions. Five of six ophthalmologists in PEI have their offices in Charlottetown, with one located ~11km west of Charlottetown. 52 GPs, 20 optometrists' offices and three EDs are located across the province. Prevalence of ocular conditions were similar across the five regions: 8%-9% in 2010 and 10%-12% in 2012. The percentage of patients with ocular concerns visiting GPs was lowest in Charlottetown (15%) and highest in Prince (24%, p < 0 .0001). Prince is the farthest region from Charlottetown. Similarly, ED visits for ocular concerns was 5% in Charlottetown and 10% in Prince (p < 0 .0001). The percentage of visits to ophthalmologist was 55% in Charlottetown vs. 40% in Prince. These patterns were consistent throughout 2010-2012 whether ICD-9 code for diabetes was included or excluded as part of the ocular conditions. Patients with ocular concerns visit GPs/EDs more frequently in regions located farthest away from ophthalmologists' offices. Due to lack of instrumentation and knowledge, eye care provided by GP/ED physicians is different from eye care provided by ophthalmologists. The differences in utilization of GPs/EDs and ophthalmologists suggest inequity in eye care.

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A Population-Based Economic Evaluation of Laparoscopic Versus Open Gastrectomy for Gastric Cancer Patients

Presented by: **Yunni Jeong**, Master's Student , University of Toronto

Assess health care system costs for laparoscopic gastrectomy (LG) versus open gastrectomy (OG). Compare costs of treatment with LG versus OG. A population-based, retrospective, person-level costing study of patients diagnosed with gastric cancer between 2005 and 2008 was performed. A cost-minimization analysis from a health system perspective was conducted with a one-year time horizon. Costs associated with index admission, re-admissions, surgery, physician billings, drug benefits, homecare, and emergency department visits were derived from administrative data. The incremental equipment cost for LG was derived from a multi-center investigation of procedural costs. Mean net costs were derived and adjusted for length of stay. Costs were inflated to 2016 Canadian dollars. A total of 903 patients were analyzed. LG was conducted in 83 patients and OG in 820 patients. The difference between mean net costs for LG and OG was significant. Cost per patient per thirty days of use was $7,825 (Standard Deviation = $16,080) for LG and $ 9,839 (Standard Deviation = $ 21,321) for OG (p=0.02), representing savings of $2,014 per patient per thirty days of use with LG. LG for gastric cancer results in lower costs than OG. Savings from LG adoption could be directed toward training and education in this minimally invasive technique. However, future economic evaluations using randomized controlled data are necessary to confirm our findings.

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A Conceptual Framework for Practicing Person-Centred Care

Presented by: **Rachel Jolley**, Research Associate, University of Calgary

Canada is among many countries that have begun adopting a person-centred care (PCC) approach to improve healthcare, however a gap remains in practical guidance on PCC implementation. We aimed to develop a conceptual framework to guide the implementation of PCC, and subsequent development of indicators to evaluate PCC practice. Collaborating with our patient partner, we developed a generic conceptual framework for describing PCC in actionable ways through a narrative review and synthesis of the literature. The Donabedian model for healthcare improvement was applied to map PCC domains into the categories of 'Structure,' PCC domains as they relate to the healthcare system/ the context in which care is delivered; 'Process,' PCC domains associated with the processes involved in the interaction between patients and healthcare providers; and 'Outcomes,' PCC domains that relate to the results of the interactions between the patient, healthcare provider, and healthcare system. The framework incorporates an array of PCC domains. Structural elements included: creating a PCC culture across the continuum of care, including an operational definition of PCC; providing a supportive work environment that contributes to PCC; developing policies for patient and family engagement and developing structures to support the use of health information technology in providing PCC. Process elements involved domains of: promoting patient-healthcare provider communication; engaging patients and caregivers in their care; and supporting processes for care coordination and continuity of care. Outcome domains included: providing timely access to care; measuring Patient-Reported Outcomes, using healthcare service utilization data and healthcare costs to evaluate investments in PCC and outcomes. Overall, this framework provides a roadmap for healthcare systems and organizations to facilitate implementation of PCC, to work towards improving the healthcare and outcomes for patients journeying through the health system.

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Assessing the reproducibility of medical record coding in Emergency Department data

Presented by: **Rachel Jolley**, Research Associate, University of Calgary

Health system performance indicators use routinely collected data typically generated by trained humans who code/transform information into standardized formats (eg:diagnostic codes). However, conclusions gained from this data can only be trusted after demonstrating their reproducibility of coding processes. We examined the coding reproducibility in Alberta Emergency Department (ED) diagnostic codes. An initial audit of ED diagnostic codes was performed by Alberta Health Services (AHS) Health Information Management Working Group which included an approximate 1% random sample of total Emergency Department visits across 11 sites in Alberta between October 1, 2013 to December 31, 2013. The medical records were reviewed and diagnoses were re-coded using the WHO's International Classification of Diseases (ICD-10) system by a data collection coding coordinator or health information management students, further validated by experienced AHS data collection team members. Agreement and reliability analysis was subsequently performed. The total number of records reviewed was n=1636 with an overall percent agreement of ICD coding across all hospitals of 86.5%, ranging from 68.4% to 95.2%. The disease and symptom categories that had the lowest percent agreement included J18: Pneumonia, organism unspecified, 68.2%; S01: Open wound of head, 77.8%; S82 Fracture of lower leg, including ankle 76.5%; F10: Use of alcohol, 79.5%. The discrepancies in coding between the professional hospital coder and auditor were also categorized, with the highest number falling in the category of the re-abstractor and original coder used a different code to represent the same condition (30.0%); and where both coders had recorded codes for very similar if not identical conditions, often where one code was more precise than the other (18.2%). Overall this study shows that the data is not completely accurate, and this accuracy determined from reliability is dependent on the hospital site and the different conditions that are being coded. More training should be done with professional coders to improve the accuracy of this data.

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Longitudinal Construct Validity of the Minimum Data Set Health Status Index (MDS-HSI)
Presented by: **Aaron Jones**, PhD Student, McMaster University
The MDS-HSI is a preference-based health-related quality of life (HRQOL) measure derived from the minimum data set (MDS). Although the validity of the MDS-HSI has been examined in cross-sectional studies, the longitudinal construct validity of the measure has not been explored. A retrospective cohort was created of adult home care patients in a large health region in Ontario with a baseline Resident Assessment for Home Care (RAI-HC) between January 2010 and December 2014 and a follow-up assessment between 90 and 540 days after the initial assessment. Multivariate linear regression models were fit to estimate the responsiveness of the MDS-HSI to clinically significant changes in mobility, cognition, emotion, health stability, pain, self-care, and communication. The relationship between change in symptoms and change in MDS-HSI was also examined. Adjusted for age and sex, changes in all of the domains were associated with a change in MDS-HSI that exceeded the commonly accepted minimal important difference (MID) of 0.03. The largest changes in MDS-HSI were observed with changes in pain (-0.09), cognition (-0.064) and mobility (-0.055). Resolution or new onset of most of the symptoms were associated a change in MDS-HSI exceeding the MID. The largest change in MDS-HSI related to symptom change was observed in whether pain disrupts usual activity (-0.14). The MDS-HSI demonstrates good responsiveness to change in the domains of mobility, cognition, emotion, health stability, pain, self-care, and communication. The measure is also responsive to a majority of the symptoms measured in the MDS. These finding support the longitudinal construct validity of the MDS-HSI in a home care population.
Co-Author(s): Aaron Jones, David Feeny, Andrew Costa

A Validation Study of the Emergency Department Subsection of the Canadian Patient Experiences Survey – Inpatient Care (CPES-IC) Instrument
Presented by: **Kyle Kemp**, PhD Student, University of Calgary
In 2014, the Canadian Institutes for Health Information (CIHI) introduced a pan-Canadian survey of inpatient experience. One section of this survey pertains to arrival at hospital via the emergency department (ED). The study objective was to validate survey responses regarding ED attendance against four reference standards derived from administrative data. From April 2014 to March 2016, data was obtained for 40,292 patients who completed a telephone survey, and provided a valid response (yes/no) to arrival at hospital via ED. Surveys were administered within six weeks of discharge from one of 93 acute-care hospitals in Alberta. Survey data were linked to inpatient (Discharge Abstract Database [DAD]) and ED (National Ambulatory Care Reporting System [NACRS]) records using personal health number, discharge date, and hospital. The four reference standards were variations of the DAD "entry code" field with/without accompanying ED record. Sensitivity, specificity, positive predictive (PPV), and negative predictive values (NPV) were calculated. The sample had a mean age of 53.5±19.4 years, was predominantly female (63.4%), was admitted to hospital urgently (n=54.5%), and had a mean length of stay of 5.3 days (range=1-465). Of the four reference standards, the one which used the DAD entry code of "E" (emergency) without corresponding ED record performed best (sensitivity=0.946, specificity=0.779, PPV=0.778, NPV=0.947). Despite this, 22.2% (4,891/22,049) of patients who reported going to the ED did not receive care there. Conversely, 5.5% (975/18,243) of patients who reported not going to the ED received care there. Patients who reported attending the ED, but did not receive any care in the ED, tended to be younger, female, and admitted to hospital on an elective basis. In Alberta, the question regarding hospital arrival via ED can be misleading to respondents. We suggest the addition of a qualifying statement about receiving ED-based care to this question. As the survey will be implemented in other Canadian jurisdictions, future analysis is needed to determine if our findings apply nationally.
Co-Author(s): Kyle Kemp, Hude Quan, María José Santana

The Governance of Research Involving the Secondary Analysis of Health Data: A Comparative Analysis of Canada and Selected Countries
Presented by: **Cynthia Kendell**, Project Coordinator, Dalhousie University/Capital Health
Health information collected in clinical and/or administrative health databases is increasingly used for research purposes. This work examines the governance of health research involving the secondary analysis of health data in Canada and selected countries, focusing on the potential implications for individual privacy/confidentiality and the conduct of health research. A descriptive analysis of the main policies governing the collection, use, and disclosure of health information (i.e., federal and provincial information legislation, and provincial health sector-specific legislation) and the ethical guidelines governing health research (i.e., the Tri-Council Policy Statement for Ethical Conduct of Research Involving Humans) in all Canadian provinces was performed. A comparative analysis of the Canadian governance model alongside governance models in the United States, United Kingdom, and Australia was then undertaken with an aim to identify potential strategies for improvement. In Canada, challenges exist specific to the secondary analysis of health data. These include: 1) The complexity of the current governance model undermines compliance given that researchers may not easily determine which pieces of legislation apply; 2) Accepted criteria for determining when data may be considered de-identified do not exist, potentially contributing to the misclassification and over-regulation of certain health information; 3) Research ethics boards are increasingly given decision-making authority on privacy-related issues, which may be beyond their scope and expertise; and 4) Individual consent is only sought if the research ethics board has deemed it necessary, thus notions that informational control rests with the individual are largely illusory. Clarity around the application and scope of regulatory structures, improvements in the function of oversight mechanisms, and greater transparency regarding the uses of individuals' personal health information are important first steps to achieving a balanced and comprehensive approach to protecting individual privacy while using health information to improve healthcare delivery.
Co-Author(s): Cynthia Kendell, Elaine Gibson, Robin Urquhart, Geoff Porter, Adrian Levy

Steps Toward Comparable Reporting: Using EMR Data for Performance Measurement
Presented by: **Tanya Khan**, Project Lead, CIHI
A national data and standards organization has collaborated with primary health care (PHC) partners in Ontario on two projects to demonstrate aspects of a PHC Electronic Medical Record (EMR) Content Standard. This presentation will highlight key project learnings and consider opportunities to use EMR data for PHC performance measurement. In 2015, demonstration projects were initiated between the pan-Canadian stakeholder organization and two PHC organizations in Ontario. The respective projects took on two different implementation approaches (i.e., front-end implementation at point of care versus back-end mapping of the partner's existing standardized terms to the EMR standard). Each project included an evaluation component which explored the impact of implementing the content standard on data collection (including clinician change management), data quality and the ability to calculate PHC indicators. Key findings for the demonstration projects are as follows: Both project partners were able to extract and submit usable EMR data for analysis regardless of the implementation approach and despite the varying project challenges. The front-end point-of-care implementation approach emphasized a strong need for clinician change management and education. Further vendor engagement may facilitate more efficient problem-solving and minimize challenges related to data extraction. Using the PHC EMR CS improved data quality by increasing the number of standardized records. Structured data decreased the time and resources required to analyze EMR data for calculating performance measures. There was high interest in practice profile and clinical indicators. However, more refined technical specifications and longer period of data collection are required to derive benefit for performance measurement. The demonstration projects tested the feasibility of implementing a PHC EMR Content Standard in existing EMR systems. Further engagement with EMR vendors, as well as enhanced clinician change management support, will drive future progress in EMR data standardization efforts and enable more comparable reporting in Canada.
Co-Author(s): Tanya Khan, Charisa Flach

Examining Income Inequalities in Cancer Screening: A decomposition analysis using administrative data in Ontario, Canada
Presented by: **Anum Irfan Khan**, PhD Candidate, University of Toronto
Multiple studies have reported on socioeconomic inequalities in cancer screening. This study sought to further our understanding of the drivers of socioeconomic inequalities in cancer screening uptake through a decomposition analysis. We examined the relative contributions of determinants to measured disparities in cancer screening uptake across income groups within Ontario. Ontario residents who participated in the 2009/10 or 2011/12 Canadian Community Health Survey Cycles and were eligible for colorectal (n=22358) or cervical cancer (n=22465) screening were included in the study. We measured income inequalities in screening uptake using the Concentration Index (CI) corrected for binary data (Erreygers-corrected, CErreygers); CI>0 indicates inequality to the disadvantage of the poor and CI < 0 indicates inequality to the disadvantage of the rich. A decomposition of CErreygers was performed (using a probit regression with marginal effects) to determine the relative contribution of sociodemographic, socioeconomic and health-system variables to measured inequalities in cancer screening uptake. Overall, the rate of cancer screening uptake was 61.9% for colorectal cancer and 66.6% for cervical cancer. The corresponding CErreygers (and standard error) were 0.074 (0.008) and 0.148 (0.007) for colorectal and cervical cancer screening respectively, suggesting that receipt of appropriate screening is concentrated within higher income groups - with greater inequality evident for cervical cancer screening. The largest contributors to income inequalities in colorectal cancer screening included household income (102.3%), marital status (42.6%) and home ownership (25.3%). Age (-29.8%), sex (-10.3%), household size (-23.4%), and employment status (-20.7%) all contributed negatively to measured inequality. For cervical cancer screening, household income (38.9%), marital status (18.6%) and home ownership (14.3%) were major contributors to measured inequality. All other determinants contributed less than 10% to CErreygers. Decomposition of the concentration index provides policymakers with key insights around the determinants of observed inequalities in screening uptake for colorectal and cervical cancer. These findings can play a critical role in shaping public health policy and prevention programming to improve equitable participation and uptake of cancer screening across Ontario.
Co-Author(s): Anum Irfan Khan, Luke Mondor, Deborah Cohen, Walter Wodchis

What works in integrated care programs for older adults with complex needs? A realist review
Presented by: **Maritt Kirst**, Assistant Professor, Wilfrid Laurier University
We conducted a realist review of the evaluative evidence on integrated care programs for older adults to identify key processes that lead to the success or failure of these programs in achieving outcomes such as reduced healthcare utilization, improved patient health, and improved patient and caregiver experience. The realist review method sought to identify the relationship between program mechanism, context and outcomes, through processes of initial theory-building, literature search, extraction, quality appraisal and synthesis. Initial theories guiding the review included trust in multidisciplinary team relationships, organizational readiness, and the role of leadership to establish an organizational culture receptive to integrated care programs. We searched for international academic literature in 12 indexed, electronic databases and grey literature through internet searches, to identify evaluative studies on integrated care programs for older adults, published between January 1980 and July 2015, in English. A total of 65 articles, representing 28 integrated care programs, were included in the review. We identified two context-mechanism-outcome configurations (CMOs): 1) trusting multidisciplinary team relationships, and 2) provider commitment to and understanding of the model. The review emphasizes the importance of trusting multi-disciplinary team relationships for processes of effective communication and knowledge sharing, and for program success. Contextual factors such as strong leadership that sets clear goals and establishes an organizational culture in support of the program, along with joint governance structures, supported team collaboration and subsequent successful implementation. Provider commitment to and understanding of the model (organizational readiness), as fostered by strong leadership, clear governance, time to build an infrastructure to implement and flexibility in implementation, emerged as key processes instrumental to success. This review included a wide range of international evidence, and identified key processes for successful implementation of integrated care programs that should be considered by program planners, leaders and evaluators.
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Implementing the strengths model of case management for people with severe mental illness: Early results of a study from 3 provinces
Presented by: **Eric A Latimer**, Professor, McGill University
Dozens of intensive case management (ICM) teams across Canada seek to support people with severe mental illness in the community, but there is no consensus on how to do so. We describe initial results concerning barriers and facilitators to implementation of a promising way of delivering ICM: the strengths model. In the Fall of 2014, 9 case management teams in Toronto, Kingston, Ottawa, Granby, Chicoutimi and Québec City received training in the strengths model from its Kansas-based developers. Another team, in St John's, had already begun the process. Several complementary methods, such as team leadership meetings and regular fidelity assessments, supported implementation. Fidelity assessments, which independent site visitors conducted every six months, also served to measure the success of implementation. Implementation observers made regular site visits to interview and observe case managers, supervisors and directors. Site reports were coded and themed to summarize facilitators, barriers and strategies to implementation. Except for the St John's site which had received earlier training, all teams were at low fidelity at baseline (range: 15.5 – 26; 27 is needed for moderate fidelity). Two years later, two teams were still at low fidelity, six at moderate and two had reached high fidelity (37.2 and 41.3 out of 45, above the cut-off of 36). Most sites were able to modify program structure and the supervision process quickly, but progress with clinical elements (eg integrating strengths assessments, connecting clients with naturally occurring resources) has been slower. Strength of motivation of program leadership at the outset appears to have been a key facilitator to attaining higher fidelity, and resistance from individual case managers an important barrier. Training teams in a promising but clinically challenging practice by U.S.-based experts has proved possible, even in the presence of a language barrier. Program leadership motivation to implement the model coupled with initial buy-in from case managers appear to be important conditions for success.
Co-Author(s): Eric A Latimer, Tim Aubry, Beverley Barrett, Christiane Bergeron-Leclerc, Catherine Briand, Janet Durbin, Rick Goscha, Terry Krupa, Christian Méthot, Alissa Setliff, Catherine Vallée, Rob Whitley

The importance of population health needs and cross-profession division of labour in health human resources planning: Examples from applications to pediatric anxiety and depression in Nova Scotia
Presented by: **Adrian MacKenzie**, PhD Student, Memorial University of Newfoundland
1) To present a dynamic, multi-professional, needs-based simulation model for health human resources (HHR) planning; 2) To estimate, using this model, the supply of and requirements for physicians, nurses, social workers, and psychologists to address anxiety and depression among school-aged children in Nova Scotia through 2030. We present a new simulation model to inform HHR planning which, unlike existing models, a) is dynamic in nature, b) estimates HHR requirements as a function of population health needs, and c) estimates requirements for multiple types of HHR simultaneously and interdependently. We also demonstrate the model's application to planning for anxiety and depression among school-aged children in Nova Scotia using data from population health surveys, administrative databases, relevant published literature, and informal interviews with key policy stakeholders. Several issues of significance to HHR planning for this specific population, and with general relevance to HHR and health service planning more broadly, are evident. First, estimates of HHR requirements are highly sensitive to even modest differences in the assumed future value of planning parameters, including but not limited to the incidence or prevalence of pediatric anxiety and depression. Second, depending on the planned number and type of services to be provided to address these conditions among this population, the existing supply of HHR in Nova Scotia has the capacity to deliver those services only under certain conditions. Third, a wide range of policy scenarios have the potential to increase or decrease the capacity of Nova Scotia's HHR to address these conditions among this population. HHR planning models that explicitly considers both measures of population health needs and the division of labour across multiple types of HHR while allowing for the dynamic simulation of changes to planning parameters over time can help reduce unmet needs for health care.
Co-Author(s): Adrian MacKenzie, Richard Audas, Gail Tomblin Murphy, Michael Zhang

What patients want: Understanding how patients view shared decisions about treatment
Presented by: **Kelly Grindrod**, Assistant Professor, University of Waterloo
Patients need to be active participants in managing and understanding their health to best navigate complex health decisions. The objective of this study was to describe how patients make treatment decisions with their healthcare providers (HCPs) and how this process relates to the use of Electronic Health Records (EHRs). We used a qualitative approach that included participants over age 30, who lived with chronic illness, spoke English or French, and who were able to consent to participation. Participants were recruited from Ontario, Alberta, Quebec and Nova Scotia. We conducted semi-structured interviews to inquire about participant experiences with treatment decisions, medication management and EHRs. Participants completed a brief demographic survey. We transcribed audio recordings and translated all transcripts into English. The team met for two days to develop a multidisciplinary analytic framework, which was used to code the data. Over 31 interviews, we identified four themes related to treatment decision making. First, patients' Feelings about Healthcare Experiences are important for decision making, including their personal connection with the family physician (more than the pharmacist or specialist), their understanding of HCP roles and their external influencers such as spouses. Second, patient decisions during Health Encounters are informed by their own shadow records and expectations around communication varies across a treatment course. Third, the Realities of Decision Making do not reflect a shared process even when patients feel engaged with their team. Fourth, when patients want Access to Records, their desire to identify and fix errors in the EHR and to prevent communication breakdown within the care team are of more concern than privacy and security. For patients to feel they are sharing in treatment decisions, they need two things: a good relationship with their HCPs, especially the family physician, and access to health information they can understand. Patient portals into EHRs should be designed to include the meaning of information rather than just the information itself.
Co-Author(s): Kathryn Mercer, Kelly Grindrod, Catherine Burns, Samina Abidi, Jonathan Boersema, Christian Chabot, Jessie Chin, Maman Joyce Dogba, LIne Guénette, Lisa Guirguis, Damla Kerestecioglu, France Légaré, Annette McKinnon, Khrystine Waked

Learning inter-sectoral action beyond health discipline: PROTOCOL for a meta-narrative review

Presented by: **Shinjini Mondal**, Student, McGill University

It has been widely recognized that improvements in health of a population is being sustained by a wide range of social and economic developments. Intersectoral mandate becomes essential to achieve such social goal. Despite this, working across sectors to promote and work on health issues remains a challenge. This meta narrative review seeks to explore the concept of inter-sectoral action across public health, environmental and natural sciences, public administration and political science to answer (a) How is inter-sectoral action defined (b) What are the different approaches identified in the following research traditions (c) Identify common and different elements (d) Inform and share learnings for strengthening inter-sectoral practice in health systems research This is an ongoing review and early results suggest that there are a range of approaches on how inter-sectoral action can be understood and conceptualized for achieving equity and to addressing governance issues. The review affirms the complexity of issue which requires participation and involvement of diverse actors, building of capacities, and a common dialogue to bring about the change in policy planning. Synthesis of evidence helps in understanding the factors and approaches that constitute different facets of inter-sectoral initiatives. This review highlights and summarises the over-arching narrative of inter-sectoral initiatives and uses it to inform, its application in health systems study.

A GIS Approach to Determine Hospital Service Areas For Ontario's Acute Hospitals

Presented by: **Mike Pacey**, Senior Health Analyst, Ontario Ministry of Health and Long-Term Care

A service area is a geographical region drawn around an institution that describes the population that utilizes its services. There is no single, widely accepted method for creating geographic service areas. The objective of this work is to develop a method for creating simple, contiguous empirical service areas. Integrating a Geographic Information System (GIS) and SAS, we created a unique, simple method for determining service areas for 166 acute care hospital sites in Ontario using 2014/15 inpatient separation data. Service areas were defined using weighted percentiles of distance from each hospital site, based on the postal code location of all inpatient separations for the year. Various weighted percentiles of distance (50, 75 and 90%) were calculated for each hospital in SAS, and the results were smoothed and mapped using ESRI ArcGIS. This approach results in a set of contiguous, easily visualized service areas that correspond to the geographic patient population served by Ontario hospitals. When displayed on maps, the depicted service areas allow us to visualize the geographic flow of patients, as well as overlaps and gaps. With the service areas delineated we were able to calculate the geographic size and total population of each area. For 33 of the 166 hospital sites (20%), 9 out of 10 separations come from within 20km of the hospital; for an additional 89 sites (54% of sites), 9 out of 10 separations come from within 50km of the hospital. Hospitals with very large geographic service areas tended to be teaching and specialty hospitals. We developed a simplified method to create service areas for 166 hospital sites. Examination of service area overlaps may be useful in identifying opportunities for delivery and integration of services.

Co-Author(s): Namrata Bains, Mike Pacey, Kristin Bennett

PRESCRIBED DRUG SPENDING IN CANADA, 2016: A FOCUS ON PUBLIC DRUG PROGRAMS

Presented by: **Jeff Proulx**, Program Lead, CIHI

This analysis provides an in depth look at public drug program spending in Canada, examining spending by therapeutic categories and drug classes that contribute to increase spending. Differences in drug spending between seniors and non-seniors and high cost users were also examined. This report provides an in-depth look at public drug program spending using claims data from the 9 Canadian provinces and 1 federal program currently reporting to CIHI's National Prescription Drug Utilization Information System (NPDUIS) Database. Public drug program spending in these jurisdictions represents roughly 65% of the total public drug spending reported in CIHI's National Health Expenditure (NHEX) Database. Public drug program spending in 2015 in these 10 jurisdictions was almost $8.8 billion, an increase of 9.2% compared to 2014. Almost two-thirds of the growth in spending in 2015 was due to the introduction of two new drugs used to treat Hepatitis C. However drug program spending still increased by 3.6% when spending on these drugs was excluded. While growth in spending on biologic drugs slowed in 2015, they continued to be one of the top contributors to spending growth. At the same time, savings on drug spending due to patent expirations and generic pricing policies slowed significantly compared to previous years; however, the savings achieved in earlier years still persist. The introduction of new and expensive chemicals to treat hepatitis C contributed to almost two-thirds of growth in spending in 2015. Patent expiries and generic pricing policies are no longer leading to significant reductions in year over year growth; however, the savings they achieved persist.

The Impact of Academic Detailing in Long-Term Care

Presented by: **Patricia Rawn**, Academic Detailer, Centre for Effective Practice

Long-term care (LTC) providers face challenges staying current with evidence and best practices. Our project aimed to: Provide evidence to support appropriate prescribing and clinical decision-making Build from and complement current initiatives supporting prescribers and care teams Enhance the prescriber, care team, resident, and family experience Improve resident health outcomes We evaluated the use of Academic Detailing (AD) in 41 LTC homes across Ontario. Our AD service offered one-on-one and small group visits to LTC providers to discuss objective, evidence-informed best practices. Homes received AD on 2 topics: Antipsychotics for Behavioural and Psychological Symptoms of Dementia (BPSD) and Falls Prevention. The service also provided discussion guides to support clinical decision-making, and material to share with residents, families and caregivers. We evaluated the service on two main criteria: uptake (number of visits and materials disseminated) and impact (provider satisfaction, confidence, and intention to change practice). From October 2015 to December 2016, we visited 41 LTC homes. We conducted 546 AD visits, provided 175 educational presentations, and disseminated 7,220 discussion guides. Satisfaction was high: 94-99% of providers (N= 250-255 for antipsychotics, N=309-310 for falls): were interested in receiving another visit, found the information useful, and felt it added to their knowledge. After the visits, providers felt more confident in: identifying behaviours that may respond to antipsychotics (219/247; 89%), deprescribing antipsychotics (208/236; 88%), identifying falls risk factors (271/299; 91%), reducing anticholinergic drug load (231/261; 89%), and communicating with the care team (220/249; 88% for antipsychotics, 272/300; 91% for falls). Providers expressed intentions to change their behaviour by: changing BPSD prescribing practices (151/187; 81%), and reviewing medications contributing to fall risk (234/261; 90%). LTC providers reported a high level of satisfaction with the AD service. The service encouraged providers to appropriately prescribe antipsychotics in BPSD and review medication to prevent falls, increased provider confidence to incorporate best practices, and increased team communication. AD has the potential to enhance care and outcomes in LTC.

Co-Author(s): Patricia Rawn, Sid Feldman, Margaret Jin, Loren Regier, Lindsay Bevan, Hannah Loshak, Andrea Moser

Lessons learned using patient and caregiver complaints to understand gaps and improve care in Ontario
Presented by: **Patricia Sullivan-Taylor**, Strategic Advisor, Health Quality Ontario
To fulfill its expanded mandate under the Excellent Care for all Act (ECFAA), Health Quality Ontario worked with pilot sites to test data submission and reporting on a set of patient relations indicators across hospital, home and long-term care sectors. This work informed measurement refinement and implementation planning across Ontario. Following site recruitment, orientation included one-on-one meetings to review the terms of reference and minimum data set. To maintain engagement and support learning across 13 Ontario regions, HQO convened three webinars and there sector-specific webinars. Indicators included: rate of complaints, complaints received by complaint category, time to acknowledge the complaint, time to close the complaint and the actions take to resolve a complaint. Pilot sites engaged patient, family and resident advisors as well as Board quality committees in their planning and reporting. HQO coordinated work through periodic discussions with the Ontario Patient Ombudsman and the sector associations. Despite legislative requirements for complaint handling, there is variation in the collection of patient relations data. Thirty-four sites were recruited. 29 sites submitted aggregate FY 2015-16 complaints data. HQO analyzed this data and provided facility-level reports which allowed sites to compare their performance on five indicators, by organization, corporation and sector. The reports also highlighted areas for patient relations quality improvement and were used to engage patient advisors, caregivers and Board quality committees on areas of strength and prioritize areas for improvement. The measures and implementation support resources were refined based on the qualitative and quantitative patient, pilot site and advisory group feedback. The project culminated in the submission of the recommendations to the Ministry of Health and Long-term Care to support province-wide implementation. There is an opportunity to provide a better patient experience in Ontario. Improved collection of patient complaints in a more standardized manner will support facility-level and public reporting. This is essential to be able to effectively use patient reported data to improve care and learning across the province.
Co-Author(s): Rachel Frohlich, Anita Singh, Patricia Sullivan-Taylor, Anna Greenberg

An Economic Evaluation of Low-Intensity Pulsed Ultrasound for Treatment of Tibial Fractures
Presented by: **Jean-Eric Tarride**, Associate Professor, McMaster University
Tibial fractures are common and costly injuries that disproportionally affect young men in the prime of their working lives. We conducted an economic evaluation as part of randomized controlled trial to establish the effect of low-intensity pulsed ultrasound (LIPUS) on tibial shaft fractures managed with intramedullary nailing versus sham. Our group recently completed a 501 patient, multi-centre, randomized controlled trial. For each patient in the trial, we prospectively collected over 1-year resource use and time to return to work as well as the Health Utilities Index version III (HUI-III). The incremental cost per Quality Adjusted Life years (QALY) gained of LIPUS versus sham was calculated from both a payer and societal perspectives. Multiple imputation was used for missing data and bootstrap techniques to account for sampling uncertainty. Cost-effectiveness acceptability curves were used to represent uncertainty. With a cost per device of $3,995, the average cost per patient was higher for patients who were treated with LIPUS than sham (difference of $3,647; 95% CI: $3,244, $4,070, p < 0 .001). While LIPUS did not provide a significant benefit in QALYs of 0.023 QALYs (95% CI: -0.035, 0.069, p=0.474), the incremental cost effectiveness ratio was $155,433/QALY for the payer perspective and $146,006/QALY from a societal perspective. LIPUS is more costly and not more effective than sham, and the ICER per QALY exceeds the range acceptable to payers and decision-makers for adoption (e.g., less than $50,000 or $100,000 per QALY gained).
Co-Author(s): Jean-Eric Tarride, Natasha Burke, Robert B. Hopkins, Gord Blackhouse, Mohit Bhandari, Herman Johal, Gordan Guyatt, Paul Tornetta III, Emil Schemitsch, Thomas Einhorn, James D. Heckman, Kwok-Sui Leung, Jason W. Busse

Examining the Delivery of Mental Health Services, in Primary Care and Public Health Collaborations, using a Population Health Framework
Presented by: **Ruta Valaitis**, Associate Professor; Dorothy C. Hall Chair in Primary Health Care Nursing, McMaster University
Addressing mental illnesses requires a population health approach to focus on the determinants of health. The aim of this research is to understand how a population health approach, aimed at addressing the determinants of health, is used in primary care (PC) and public health (PH) collaborations to address mental illnesses. A secondary analysis drawing on data collected through a multi-province (BC, ON, NS) study examined factors related to strengthening primary health care through PC and PH collaboration. Focus group data from four cases that addressed mental health were used to examine whether mental health activities incorporated a population health approach, as well as to identify the enablers and barriers to carrying out the activities. A coding framework and themes were developed deductively, based on the Public Health Agency of Canada's (PHAC) population health framework, and through inductive analysis. Results on how PC and PH collaborations addressed mental health problems, including the extent to which a population health approach was employed to address the determinants of health and ways mental health service delivery can be improved, will be presented. Twenty-nine themes and eighteen sub-themes were identified that correspond to the PHAC's population health framework. Participants described activities being carried out across the collaborations corresponding with many key elements of the population health framework. Key enablers included working in a multidisciplinary team, addressing the determinants of health, and engaging the community. Key barriers included poor data systems, a lack of service integration, a lack of action on demonstrating accountability for outcomes, and limited funding for upstream investments. This research provides insight at the program and policy level for PC and PH as well as other sectors related to collaborative strategies that can strengthen the delivery of mental health services by incorporating a population health approach. It also provides suggestions for improving PHAC's population health framework
Co-Author(s): Leena Chau, Charlyn Black, Ruta Valaitis, Jane Buxton

WHAT ARE THE PERCEIVED EFFECTS OF THE IMPLEMENTATION OF ADVANCED ACCESS IN FAMILY MEDICINE UNITS IN QUEBEC?

Presented by: **Sabina Abou Malham**, Postdoctoral researcher, Universite de Sherbrooke

Examining impacts of advanced access has been the subject of most studies; very few have addressed the perceived effects of this innovation on the different categories of providers and patients. This study aimed to gain insights into users' own experiences by exploring which types of effects are perceived by them. We used a qualitative approach and purposively selected 10 key informants (Family physicians, residents, nurse clinicians, advanced nurse practitioners, and clerical staff) from four early adopters of advanced access family medicine units in Quebec. A total of forty individual semi-structured interviews were conducted. Interviews were audio-recorded and transcribed verbatim. Data were coded with QDA Miner software and analyzed using qualitative content analysis. We used a mixed coding scheme based mainly on empirical data derived from fieldwork and on the literature on the potential effects of advanced access. Many key benefits were commonly reported by participants: increased satisfaction for physicians, nurses, and clerical staff. This result was mainly attributed to improvements in timely access to care, flexibility of appointments, enhancement of working conditions, reduction in patients complaints, work stress and frustration with the traditional booking system. Nurses recognized specific benefits such as role enhancement and valorization. Greater patients' satisfaction (e.g., improved timeliness of patient care) was a significant benefit. Positive effects on residents' education included improved clinical training experiences and learning novel practice management skills. Some participants reported lower emergency department utilization. However, some negative effects were highlighted: disruption in relational continuity of care compromising resident training and educational goals. Perceptions regarding improved responses to the complex needs of vulnerable patients were equivocal. Our findings suggest that advanced access appears to provide significant benefits to the: patients, health care providers, administrative staff, and the health care system. They can support the decision makers in promoting the model across Quebec, and pursuing their efforts to improving timely access and health care quality delivery.

Co-Author(s): Sabina Abou Malham, Mylaine Breton, Nassera Touati, Lara Maillet