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Poster Abstract Program
Programme des résumés d'affiches

1. Mental Health and Caffeinated Beverages: Something to Keep in Mind - Roshni Sandhu

Co-authors: Nicole Atkins, Josiah Marquis

Background: Globally, caffeine has been identified as the most widely consumed psychoactive substance.

Objectives: The objective is to identify the impact of commonly consumed caffeinated beverages on the most prevalent mental health disorders in North America.

Methods: An electronic literature search was completed using the following databases: Web of Science, CINAHL, Cochrane Library, PubMed, and Google Scholar. Specific keywords were utilized surrounding the following general topics: caffeine, beverages, and mental health disorders. A quality assessment was also completed on the included randomized and nonrandomized studies, utilizing the 27-item Quality Checklist, developed by Downs and Black.

Results: The research gathered demonstrates a high degree of heterogeneity. For example, research suggests caffeinated beverages have a protective effect against dementia and cognitive related disorders (RR: 0.84, 0.72-0.99) (Santos et al., 2010). The available literature also demonstrated that caffeinated beverage consumption was protective against the risk of depression. Additionally, caffeinated beverage consumption increased the severity of symptoms for certain personality and psychotic disorders, such as borderline personality disorder and schizophrenia.

Conclusion: The evidence demonstrated that the consumption of caffeinated beverages has an impact on mental health outcomes. However, there was limited research available for the following mental health disorders: eating disorders, psychotic disorders, and personality disorders. Future research studies should be completed to enhance the current understanding of the impact of caffeinated beverage consumption on these mental health disorders.

Describe How This Research Demonstrates Innovation: The data collected demonstrates innovation, as preliminary guidelines will be established regarding safe caffeine consumption for individuals with mental health conditions, as well as for the general public.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or

Practice: This research will assist to identify gaps in the available literature regarding caffeinated beverage consumption and specific mental health disorders. Furthermore, this data can provide an opportunity to develop specific policies regarding safe caffeinated beverage consumption. The findings from this research would assist with the establishment of caffeine consumption recommendations in clinical practice for patients with mental health disorders as well as the general public.

2. Help-seeking experiences among adults from diverse ethno-cultural backgrounds: Managing symptoms of depression, anxiety, and psychological distress in the Halifax Regional Municipality - Jad Sinno

Co-authors: Flint Schwartz, Nicole Doria, Amanda Sockett, Michelle Paul, Lisa Corra, Len Burell, Zenovia Ursuliak, Ingrid Waldron, Amy Bombay

Objectives: Assess the proportion of adults who have never spoken to a service provider about their mental health symptoms; Assess proportion of adults who have seen various types of service providers about their mental health symptoms – including traditional and/or complementary practitioners (TCP); Assess satisfaction and therapeutic alliance ratings across different care providers; and Identify if any of the above measures differ across ethno-racial groups.

Methods: Adults age 19+ (N=389) in the Halifax Regional Municipality (HRM) with symptoms of distress/anxiety/depression completed a mixed-methods survey that asked what type health providers they have sought help from in relation to their mental health symptoms. For each practitioner, participants were asked to rate their “satisfaction in relation to the mental health clinical and/or treatment outcomes attributed

to care provided”, and respond to 4 items assessing three aspects of the therapeutic alliance with that provider (12 in total).

Results: One-sixth (15.9%) of adults in HRM reported never speaking to any service provider about their mental health, and this was most common for Black participants (25.6%). Mainstream health care providers (e.g., psychiatrist) were most visited by participants, but over one-quarter (27.8%) of the sample reported seeing at least one ‘complementary’ provider. One-third (30.4%) of Indigenous participants reported seeing a traditional service provider, which was significantly greater than other groups. Ratings of satisfaction with treatment outcomes and therapeutic alliance were generally higher for TCP compared to mainstream practitioners.

Conclusions: In addition to widespread use of TCP, adults living with symptoms of distress/anxiety/depression in HRM are very satisfied with the treatment outcomes and care received (seemingly more so than mainstream health care practices).

Describe How This Research Demonstrates Innovation: Helps to understand treatment preferences and experiences of adults in HRM and Canada, which are poorly understood.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Culturally competent health care services are essential to maximize efficacy and provide optimal mental health care to patients.

3. Weight bias internalization: Sex differences and relationships with mental health - Erica Szwimer

Co-authors: Stefanie Marchione, Lisa Kakinami, Angela Alberga

Background: Stigma has been identified as a fundamental public health inequity. Weight bias and stigma have increased in frequency and intensity over the last few decades. While adverse health consequences of weight bias are well known, sex differences and mental health consequences of weight bias internalization (i.e. self-stigma or the belief that the stigma is deserved) warrant further study.

Objectives: To explore the relationships between weight bias internalization (WBI), sex, and mental health.

Methods: A sample (N=99, age 37.49 \pm 18.43; 39% male; BMI 25.96 \pm 4.29 kg/m²) completed demographic characteristics, WBI and mental health measures (life satisfaction, emotional wellbeing and body dissatisfaction) at the PERFORM Center in Montreal. The association between WBI on life satisfaction, emotional wellbeing and body dissatisfaction after adjusting for sex, age, race, and BMI were conducted with separate multiple linear regressions.

Results: For every unit increase in mean WBI, life satisfaction, positive emotions and body satisfaction decreased (β : -0.41, -0.27, -0.58 respectively, $p < 0.001$). When stratified by sex, every unit increase in WBI resulted in a decrease in life satisfaction, positive emotions and body satisfaction in females (β : -0.40, -0.26, -0.70, respectively, $p < 0.01$) whereas only life satisfaction and body satisfaction decreased in males (β : -0.39, -0.63, respectively, $p < 0.05$).

Conclusions: Even when controlling for BMI, WBI was associated with negative mental health. While men or women who internalize weight bias tend to have less body and life satisfaction, only women’s positive emotions were worsened from self-stigma.

Describe How This Research Demonstrates Innovation: The adverse effects of WBI or self-stigma on life satisfaction, (ii) emotional wellbeing and (iii) body dissatisfaction, according to sex, have not been examined.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The results of this study support the notion that WBI has adverse mental health effects for both males and females, although females may experience more emotional distress than males. These results highlight the importance of research, policy and practice to reduce weight bias and its negative mental health implications at the population level.

4. Understanding the Trend in Psychiatric Visits to the Emergency Department, 2008-2017 - Denise Zabkiewicz

Co-authors: Adam Vaughan, Simon Verdun-Jones

Background:

As a result of deinstitutionalization, psychiatric services have shifted away from inpatient treatment towards outpatient and community based programs. Unfortunately, significant gaps in community based treatment services exist and many psychiatric patients are seeking services at hospital Emergency Departments (ED) as they are the last remaining source of treatment services available. Consequently, psychiatric visits to major hospitals are a growing problem in metropolitan areas across Canada.

Further, given that approximately half of all psychiatric patients have a co-occurring substance use problem, the service needs of individuals in the community with psychiatric problems are not only substantial but complex.

Objectives: This study seeks to examine recent trends in the rates of psychiatric visits to the ED, including volume, recurrent visits and diagnoses as well as co-occurring substance use disorders.

Methods: This study draws from 9 ½ years (2008-2017) of de-identified administrative data from the Fraser Health Authority in the Greater Vancouver Regional District of British Columbia.

Results: Changes in the rate of psychiatric ED visits over the period from 2008-2017 will be presented by sex, housing stability, and whether or not the visit was via police escort.

Conclusions: If the rate of psychiatric ED visits reflects the unmet need for services in the community, increased attention and efforts to further develop outpatient psychiatric services will be vital for this vulnerable population.

Describe How This Research Demonstrates Innovation: In 2016, British Columbia's Provincial Health Officer, Perry Kendall, declared the opioid crisis a public health emergency. This crisis continues in 2017. This study, with data coverage prior to the opioid crisis, will provide an important opportunity to enumerate and describe what is a disconcerting trend in psychiatric visits to the ED.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research is critical for the accurate assessment of trends in community based needs for complex psychiatric services. Further, for service providers and policy makers to respond to these needs, a detailed description surrounding diagnoses and co-occurring substance use is imperative.

5. The effectiveness of addictions interventions among the concurrent disorders population within correctional and forensic psychiatry systems - Jasneet Kaur Dhaliwal

Co-authors: Steven T. H. Ma, Gary Chaimowitz

Background: Addictions interventions have been proven effective in psychiatric populations in reducing criminal recidivism and substance use. However, little is known about their effectiveness in psychiatric populations with a criminal background. The emerging relationship between the concurrent disorders population and criminality constitutes a public health priority.

Objectives: To synthesize evidence within the last ten years on the effectiveness of addictions interventions among the concurrent disorders population within correctional and forensic psychiatry systems.

Methods: A systematic review was conducted by searching three scientific databases (Embase, MEDLINE, and PsycINFO). Relevant primary studies in the English language published from January 2007 to August 2017 were screened and abstracted in duplicate by two independent reviewers. Eligible studies were required to have a study population with a concurrent disorder (mental health and substance use problems) that has also come into contact with the correctional or forensic psychiatry system. The primary outcome of interest was the effectiveness of addictions interventions in this population.

Results: From 442 retrieved articles, eight articles were included in this review. The findings reveal that addictions interventions are significantly associated with a reduction in rates of criminal recidivism, new crime, and drug use among this forensic and correctional population with concurrent disorders.

Conclusions: This systematic review highlights the importance of and potential in developing addictions interventions that are effective in improving health and social outcomes for this triply troubled population.

Describe How This Research Demonstrates Innovation: To the best of the researchers' knowledge and from searching the literature, this review is the first to examine the effectiveness of addictions interventions in the concurrent disorders population within correctional and forensic systems.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Findings from this review serve to guide future addictions treatment frameworks in an effort to improve criminal and substance relapse outcomes for this vulnerable and overlooked population.

6. Persuasion, marketization and building community capacity: Implementing a suicide prevention public health initiative - Patti Ranahan

Co-author: Jennifer White

Background: Rising suicide rates prompted the British Columbia (BC) government to mobilize a suicide prevention gatekeeper training public health initiative in 2015, aiming to have 20,000 citizens trained in suicide awareness and intervention skills. The Canadian Mental Health Association – BC Division was charged with implementing the initiative, and funded this study.

Objectives: Public health initiatives unfold in relational contexts including negotiations among stakeholders, navigating tensions, and managing competing knowledge claims and cultural assumptions. With the objective of capturing such complexity, questions guiding this study include: How do stakeholders negotiate their different interests, or capitalize on similar concerns, in the pursuit of a provincially mandated goal? What contributed to, or inhibited achieving the desired outcomes?

Methods: A focused ethnography, informed by a relational constructionist approach, was used to meet the objective and answer the research questions. Data gathered during the initial two phases (i.e., 18 individual interviews, field observations) were analyzed to reveal the relational practices surrounding and constituting 'implementation.'

Results: Implementation is a product of historical and social relations designed to persuade others. The marketization of suicide prevention is a contemporary reality. Questions of legitimacy, territoriality, and public recognition permeated initial efforts. Tensions exist between ethical commitments to building community capacity, and efforts to persuade and market suicide prevention education.

Conclusions: Health planners can benefit from thinking about implementation processes as sites of complex ethical, political and interpersonal conflicts and investments.

Describe How This Research Demonstrates Innovation: This research builds on the limited knowledge available regarding the importance of organizational influences and policies in how gatekeeper training is taken up in local contexts, and the mapping of ethical tensions when implementing large-scale mental health policy initiatives.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Useful tools are offered for future policy developers interested in implementation processes that involve multiple community partners, including querying the history of engaging with the issue (e.g., suicide), mobilizing existing knowledge, and re-imagining implementation processes as interventions within social, historical and political relations.

7. Does cannabis use mitigate the effect of post-traumatic stress disorder on depression and suicide ideation? Preliminary observational evidence from a representative sample of Canadians - Stephanie Lake

Co-authors: Thomas Kerr, Evan Wood, M-J Milloy

Background: Post-traumatic stress disorder (PTSD) sharply increases the risk of depression and suicide. Cannabis is frequently used by people suffering from PTSD to manage symptoms of the disorder. Despite this, little research exists to support the use of cannabis for therapeutic purposes among people with PTSD, including its association with depression and suicide.

Objectives: To test whether cannabis use modifies the association between PTSD and experiencing suicidal ideation or a major depressive episode.

Methods: We obtained data from the 2012 Canadian Community Health Survey-Mental Health (CCHS-MH), a nationally representative cross-sectional survey of non-institutionalized Canadians aged 15 and older. We used logistic regression to model the relationship between PTSD and: suicide ideation; and major depressive episode, controlling for demographic characteristics and current mental health and substance use comorbidities, and stratified by cannabis use status.

Results: Among 24,089 eligible respondents, 420 (1.7%) reported a clinical diagnosis of PTSD. In total, 106 (28.2%) people with PTSD reported cannabis use (>1 time) in the previous year compared to 11.2% of those without PTSD ($p < 0.001$). In adjusted stratified models, PTSD remained significantly positively associated with recent suicide ideation and major depressive episode among cannabis non-users (Adjusted odds ratio [AOR] = 4.90, 95% confidence interval [CI]: 2.45–9.80; AOR = 2.99, 95% CI: 1.68 – 5.33, respectively). PTSD was not associated with suicide ideation or major depressive episode among cannabis-using respondents (AOR = 1.60, 95% CI: 0.73 – 3.51; AOR = 1.42, 95% CI: 0.64 – 3.12, respectively).

Conclusions: Our findings provide evidence that cannabis use may help mitigate the risk of life-threatening mental health problems associated with PTSD. These findings support experimental investigation of the effectiveness of cannabis/cannabinoids for the treatment of PTSD.

Describe How This Research Demonstrates Innovation: This is the first Canadian study to demonstrate that cannabis may provide relief to individuals who are suffering from PTSD.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: These findings offer practical guidance around medical cannabis use to health care professionals treating patients with PTSD, and provide support for experimental investigation into cannabinoids as a PTSD therapy.

8. Going beyond public health to support public health initiatives: Increasing Mental Health Screening through partnerships and technology - Meghan Brenner-Burgoyne

Co-authors: Lirije Hyseni, Mohamed Alarakhia Alarakhia, Jennifer La, Danika Walden

Background: 1 in 5 people in Ontario live with a mental health condition (Brian et al., 2015). To support efficient and standardized mental health screening using validated tools, the eHealth Center of Excellence (eCE) in partnership with Canadian Mental Health Association of Waterloo-Wellington developed a program to support primary care providers (PCPs) with tablets that integrate with their electronic medical record (EMR).

Program Purpose: Increase mental health screening and assessment through implementation of tablets into PCP offices in Waterloo-Wellington.

Target Groups: Individuals visiting their PCP for mental health reasons, annual examinations, new patient visits, and females scheduled for postpartum visits.

Activities: The eCE provided individualized change management support to PCPs in Waterloo-Wellington to support the adoption of tablets for mental health screening and assessments. In addition, PCPs were

encouraged to use tablets for other purposes (i.e. other screening tools) to enhance the efficiency of their practice.

Deliverables: Within 5 months of the program initiation, 12 clinics in Waterloo-Wellington adopted tablets, starting at different times. 3315 mental health assessment forms were completed by patients. PCPs also used tablets to conduct Nipissing District Developmental Screens, Nutri Step, and other assessments (totaling 10,807). The tablets significantly increased the number of validated mental health assessments conducted and allowed for the information to be transferred to the PCP's EMR, to be used at the point of care. 37% of patients indicated that using the tablet for the mental health screen helped them provide more honest answers (N=608).

Describe how this public health practice/program demonstrates innovation: The collaboration among different partners, the leveraging of eCE's relationships and the provision of enabling technologies and change management support to facilitate efficient screening, illustrates innovation.

Describe how this practice/program informs change to future public health practice, research and/or policy development: The program illustrates the importance of looking beyond public health to support public health initiatives, emphasizing collaboration with other healthcare system partners and the use of enabling technologies to further the public health agenda, while meeting other partner needs.

9. e-Harm Reduction : Points de vue des jeunes et du terrain - Anne Guichard

Co-authors : Lefrançois Catherine, Marianne Saint-Jacques, MP Gagnon, Élise Roy

Contexte : L'explosion des nouvelles substances psychoactives, la transformation des pratiques de consommation, l'inadéquation des services pour les jeunes, et le virage technologique pris par les consommateurs tant pour acheter que s'informer sur les substances incitent à repenser l'intervention en réduction des méfaits.

Objectifs : Explorer l'intérêt et la faisabilité d'utiliser les technologies de l'information et des communications (TIC) pour prévenir des consommations plus intensives et réduire les dommages chez les jeunes consommateurs (18-24 ans).

Méthode : Une recherche communautaire basée sur des groupes de discussion menés auprès de jeunes consommateurs de 18 à 29 ans (2 groupes, 16 jeunes) et d'intervenants (1 groupe, 7 intervenants) oeuvrant auprès des jeunes en difficultés dans la région de Qc.

Résultats : Les TIC constituent un outil privilégié d'approvisionnement et d'échange d'information sur les substances parmi les jeunes. Elles s'insèrent dans un contexte de lacunes perçues dans les ressources existantes. En réponse, jeunes et intervenants suggèrent le développement d'une plateforme multiservices d'accès à des ressources spécialisées et adaptées d'information et d'orientation, particulièrement en situation de crise. Des enjeux émergent liés aux inégalités d'accès au numérique, de littératie avec les TIC, éthiques et juridiques.

Conclusions : Les TIC sont bien implantées dans le travail des intervenants et la vie des jeunes consommateurs. Elles sont des outils complémentaires, probablement incontournables à l'ère du numérique et de la complexification des marchés et des modes de consommation.

Comment cette recherche innove : Elle livre la perspective (rare) des publics concernés, soit les jeunes et les intervenants, pour penser de nouveaux modes d'intervention utilisant les TIC dans un contexte de services déficitaires à l'égard de certains groupes vulnérables.

Comment cette recherche guide les changements dans l'élaboration de politiques et programmes de santé publique: Dans le contexte de la crise des opioïdes et de légalisation du cannabis au Canada, elle offre des pistes d'intervention pour les autorités sanitaires et les acteurs devant faire face aux nouveaux environnements d'exposition et de risques associés aux substances psychoactives, dans le respect et l'implication des personnes concernées.

10. Improving equitable participation of peers involved in harm reduction programs - Lauren Clow

Co-authors: Grace Huang, Katherine Horst, Christine Maika, Lauren Mathany, Melanie Sanderson, Candace Zuccarini, Jane Buxton

Background: The participation of peers in harm reduction research, programming, and policy development builds peer capacity, and increases the acceptability, accessibility and use of harm reduction programs. However, many organizations in Canada lack the tools to effectively incorporate the experience and knowledge of peers into harm reduction services.

Program Purpose: Our project investigated the inequities between peers and professional staff participation of harm reduction programs across Canada, in order to develop a tool/guide to optimize peer support within harm reduction services. This was done with support from the BC CDC and the University of Waterloo MPH program.

Target Groups: Stakeholders, organizations and programs that want to start working with, or improve their work with peers.

Activities: To develop the Peer Engagement Guide, a survey was conducted that reviewed current supports for peers and paid-staff in harm reduction programs.

Deliverables: Three deliverables are touched upon within the poster presentation. First, a background paper that focuses around harm reduction and current practices. Second, a cross-Canada survey with analysis to compile perspectives around equitable work from both peers and professional staff in current harm reduction programming. Third, a Peer Engagement Guide that provides references and breaks down strategies for organizations to create equitable work for peers.

Describe how this public health practice/program demonstrates innovation: Our project looks at involving peers through an equitable lens. It provides a perspective from peers and professional staff working with peers, through the knowledge collected from the survey. This has helped to identify possible strengths and gaps of what a successful harm reduction program can look like.

Describe how this practice/program informs change to future public health practice, research and/or policy development: With the opioid epidemic in Canada, organizations may feel that having peers involved in their harm reduction programming would be beneficial. What our project provides is knowledge and strategies around how to involve peers in programs through equitable means, and give a resource to help address the needs of the organization.

11. Developing interactive case studies informed by experiences of people who use drugs to reduce stigma - Sara Young

Co-authors: Jane Buxton, Ms Heather Burgess, Alissa Greer, Mr James Tigchelaar, Team Peer Engagement and Evaluation Project

Background: The Peer Engagement and Evaluation Project performed 13 peer-led focus groups across BC to identify facilitators and barriers to accessing harm reduction services and to peer engagement by health authorities. Participants reported stigma made it harder to access services and feeling labeled and judged. It was recognized that service providers lacked the tools and skills to enable them to communicate respectfully and support people who use drugs (PWUD).

Program Purpose: The Compassionate Engagement Modules are a series of interactive case studies about stigma and discrimination experienced by PWUD. The modules are designed to engage PWUD and people who provide them services to enable each group to learn from the other's perspectives, develop solutions and practice compassionate care, effective communication, and self-advocacy.

Target Groups: Health care providers, frontline service providers, managers, and leadership and PWUD.

Activities: Modules with scenarios occurring in shelters, community health centres, methadone clinics and hospitals were developed. The facilitators (a local service provider and person with lived experience) show photo narrated case study clips based on experiences shared in the focus groups and developed with peer-researcher input. The facilitators lead the participants of PWUD and providers through a discussion about what happened in the case study. The group may re-enact the case study, changing behaviours they think could be done differently.

Deliverables: Ten interactive modules, facilitator guide and respectful language guide. The facilitator's guide leads the participants to consider positive and negative aspects of behaviours, service design and stigma – including internal stigma, organizational stigma and stigma in communications and language.

Describe how this public health practice/program demonstrates innovation: The innovative aspect is the modules are based in the reality of people with lived experience and bring service providers and PWUD together to learn from each other.

Describe how this practice/program informs change to future public health practice, research and/or policy development: The modules enhance understanding of the perspectives of each other in a constructive environment. Reducing stigma can enable PWUD to seek harm reduction and overdose services

12. Naloxone administrations by the BC Ambulance Service, 2010 – 2016 - Sara Young

Co-authors: Lauren Mathany, Jane Buxton, Michael Otterstatter

Objectives: We examined recent trends in all paramedic-attended overdose events and naloxone administrations (an opioid antagonist) in order to inform overdose response strategies, interventions and communications.

Methods: Data were provided by BC Emergency Health Services, including all records from BCAS where paramedics or dispatch indicated possible overdose/ingestion poisoning or where naloxone was administered. We report a descriptive analysis of these data, which include a broad spectrum of suspected overdoses, for the period January 1, 2010 to September 30, 2016.

Results: During January 2010 - September 2016 BCAS paramedics attended 164,227 suspected overdose events; 12% of these events (n=16,944) included naloxone administration. In parallel with rising illicit drug overdoses, naloxone administration by paramedics increased rapidly, doubling from approximately 180/month in 2014, to 370/month in 2016. Administrations occurred most frequently on Friday and Saturday evenings; almost half (46%) were in a home or residence and 18% on a street or highway. In 2010, 58% of naloxone administrations were in males compared to 69% in 2016. Roughly 90% of patients receiving naloxone from paramedics were transported to hospital, compared to 77% among patients that did not receive naloxone.

Conclusions: The number of overdoses in BC has risen drastically in recent years and the proportion of ambulance calls requiring administration of naloxone has climbed correspondingly. Overall, patterns of naloxone administration by paramedics are consistent with the predominance of severe drug overdoses occurring in private residences, among males, and during times of peak illicit drug use. BCAS plays a critical role in attending to and transporting these overdose patients.

Describe How This Research Demonstrates Innovation: To our knowledge, this is the first Canadian study of ambulance attended drug overdoses and naloxone administrations based on paramedic records.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: With the overdose crisis showing little sign of abating, the administration of naloxone by BC paramedics will continue to be a critical element of the provincial response. Our descriptive analysis can help inform the design of effective responses to this crisis.

13. Opioid-Related Harms in Canada - Krista Louie

Co-authors: Shannon O'Connor, Vera Grywacheski

Background: The rise in opioid-related harms is an issue of urgent public health importance in Canada. Pan-Canadian measures that provide a better understanding of the harms associated with opioids are a high priority.

Objectives: To examine pan-Canadian trends in opioid-related harms, including hospitalizations, emergency department visits and apparent opioid-related deaths.

Methods: This analysis includes hospitalization data from the Canadian Institute for Health Information's Hospital Morbidity Database and emergency department data from the National Ambulatory Care Reporting System. Hospitalizations and emergency department visits due to opioid poisoning were identified using ICD-10-CA codes. Data on apparent opioid-related deaths was obtained from provinces and territories by the Public Health Agency of Canada.

Results: Opioid-related harms are increasing across Canada. Between 2007-08 and 2016-17, the rate of hospitalizations due to opioid poisoning has increased by 53%, to 15.6 per 100,000 population. Between 2012-13 and 2016-17, the rate of emergency department visits due to opioid poisoning increased by almost 150% in Alberta and by almost 50% in Ontario. Preliminary 2016 data indicate that 2,458 people died of apparent opioid-related deaths in Canada, a rate of 8.8 per 100,000 population.

Conclusions: The continued rise in opioid-related harms highlights the importance of establishing comparable data to support public health surveillance at the local, provincial and federal levels.

Describe How This Research Demonstrates Innovation: This research demonstrates innovation as it provides the most up-to-date analysis of pan-Canadian trends in opioid poisoning hospitalizations. By bringing together hospitalization, emergency department visit and opioid-related death information, it is also the most comprehensive analysis of opioid-related harms in Canada.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research underscores the importance of comparable, pan-Canadian data on opioid-related harm. The provincial and municipal level analysis can also help inform the development of evidence-based strategies to help reduce these harms, such as naloxone kit distribution and supervised consumption sites.

14. Evaluation of British Columbia's Facility Overdose Response Box Program - Sierra Williams

Co-authors: Sarah Young, Sonya Ishiguro, Emily Ogborne-Hill, Margot Kuo, Jane Buxton

Objectives: To assess the feasibility, acceptability and effectiveness of the Facility Overdose Response Box (FORB) program.

Methods: This evaluation employed a mix-methods approach to evaluate FORB since program launch, December 1, 2016. Quantitative data was obtained from the BCHRP and analyzed using descriptive statistics. Focus groups and key information interviews were conducted with FORB participants at various levels (i.e. Health Authority Harm Reduction Coordinators, FORB site coordinators, FORB site staff, and BCCDC Harm Reduction Team). Interviews were transcribed and analyzed using qualitative descriptive methods.

Results: As of November 2017, 462 sites registered for FORB; the majority were from Vancouver Coastal Health (42%), followed by Fraser Health (32%), Interior Health (16%), Island Health (9%) and Northern Health (2%). Between December 1, 2016 – October 15, 2017, a total of 235 naloxone administration events were reported by 41 FORB sites. Amongst these events, 168 (71%) were successful overdose reversals, 26% had outcomes unknown, and 3% were fatal. The majority of these naloxone administration events took place in Vancouver (40%), followed by Victoria (21%) and Kelowna (20%).

Conclusions: Registered sites are supported to develop an overdose response policy and protocol and staff were provided adequate naloxone training. The number of sites registered has increased over time, and FORB sites

are consistently responding to overdose events with naloxone administration. The FORB program has enabled community sites and staff to be equipped to recognize and respond to opioid overdose events, and are provided with debriefing and supports following and overdose response. FORB remains an important and effective component of provincial overdose response.

Innovation: This study evaluates an ongoing harm reduction program that aims to prevent fatal overdoses at community organizations and to assist participating sites in providing adequate support to staff who respond to opioid overdoses.

Informing Future Change: The Facility Overdose Response Box Program (FORB) was created to provide overdose response boxes containing the opioid antagonist naloxone for use by employees of community-based organizations if a suspected opioid overdose occurs. This evaluation helps assess the effectiveness of FORB and outline recommendations for program improvement.

15. Patterns of Ambulance Non-Transport Among Illegal Drug Overdoses in British Columbia - Sierra Williams

Co-authors: Michael Otterstatter, Margot Kuo, Jane Buxton

Objectives: To describe patterns and implications of ambulance non-transport for illegal drug overdose events in BC.

Methods: We calculated descriptive statistics to summarize the demographic, temporal and geographic patterns among illegal drug overdoses attended by BC Ambulance Service (BCAS) during January 1, 2011-March 3, 2017, focusing on those not transported to hospital ('non-transport').

Results: Out of 31,450 illegal drug overdoses included in the analysis, 4768 were not transported to hospital by BCAS. 51% of the non-transport events occurred in 2016–2017. ~54% of the non-transport patients were between 25–44 years of age, 71% were male. The proportion not transported was relatively stable 2011-2015 (~13%), but increased steadily to ~24% in 2017. The proportion of those refusing transport increased ~10% in 2016–2017 to 44%. In 2016-2017, non-transport was more frequent among those not receiving naloxone (treatment for opioid overdose) from paramedics (24%) compared to those receiving naloxone (18%). During 2016–2017, non-transport was most common in cities with >400 illegal drug overdoses, with 20% of their events not transported. The majority of those not transported were from Vancouver's Downtown Eastside (n=1334, 28%) and Surrey (n=557, 12%).

Conclusions: The proportion of illegal drug overdoses not transported by ambulance to hospital increased in 2015–2017, coinciding with an increase in illegal drug overdose events. Geographic breakdowns revealed increasing non-transport events across the province. Reasons for non-transport of illegal drug overdoses and event outcomes require further study, however patient refusal appears to be a factor. The role of naloxone administration by community members prior to ambulance response warrants further study in this regard.

Innovation: Contextualizes ambulance transport patterns for illegal drug overdose events during public health emergency.

Informing Future Change: Transport by ambulance to the emergency department is an important part of care for individuals who have experienced an illegal drug overdose as they may be at risk of further overdose, have co-occurring illness, or can be offered additional supports. This research helps inform overdose response strategy planning, interventions and resource allocation by BCAS, Health Authorities and public health services.

16. Working with Priority Populations: Hamilton's Supervised Injection Site Needs Assessment and Feasibility Study - Elisa Berg

Co-authors: Jessica Hopkins, Laura Bourns, Lydia Cheng, Miss Anne Kang, Shivali Kaushal, Kimia Khoei, Fran Scott

Background: Supervised injection sites (SISs) are legally operated facilities where pre-obtained illicit drugs can be injected under the supervision of health professionals. In 2017, Hamilton Public Health Services and McMaster University conducted the SIS Needs Assessment and Feasibility Study. While many stakeholders were consulted, this presentation focuses on the engagement of people who inject drugs (PWID).

Objectives: Determine the need and feasibility of supervised injection sites in Hamilton, Ontario; and Understand injection behaviours and risk factors of PWID in Hamilton

Methods: Surveys and focus groups with PWID, which sought to understand participants' drug use behaviours and their acceptability of SISs, were conducted by study staff and peer researchers.

Results: Four focus groups and 106 surveys were conducted. A third of survey participants reported injecting drugs at least daily. The most frequently injected drugs were crystal meth, hydromorphone, and cocaine. Nearly half of respondents reported ever having an accidental overdose, among whom 45% had an ambulance called during their last overdose. This sample of Hamilton PWID reported a high prevalence of high-risk injection behaviours, including injecting alone (84%) and reuse of needles (49%). All participants agreed that Hamilton needed one or more SISs, and 61% preferred an SIS integrated with other health and social services. Eighty percent of survey respondents would use an SIS in Hamilton.

Conclusions: When considering the need for, and feasibility of, public health interventions, the engagement of the target priority population is critical. In Hamilton, PWID accept SISs as a feasible harm reduction strategy to address injection drug use in Hamilton.

Describe How This Research Demonstrates Innovation: This research focused on the opinions of a marginalized group who are not always consulted on a public health program.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The study's findings and recommendations will be considered in Hamilton's program planning within a comprehensive approach to drug and substance misuse. Additionally, this study demonstrates the importance of engagement with priority populations when conducting needs assessments in other regions.

17. Pan-Canadian Trends in the Prescribing of Opioids, 2012 to 2016 - Paul Sajan

Co-authors: Michele Bender, Roger Cheng, Michael Gaucher

Background: Canada is in the midst of a worsening opioid crisis. The ongoing monitoring of opioid prescribing trends is needed to support urgent public health surveillance needs to address the crisis.

Objectives: To characterize the pan-Canadian and provincial opioid prescribing trends from 2012 to 2016.

Methods: The analysis used aggregate prescription dispensed data and record-level drug claims data to examine the number of defined daily doses (DDDs), the number of prescriptions dispensed as well as to determine the number of people prescribed opioids by potency and age.

Results: Between 2012 and 2016, the rate of DDDs declined by 9% from 6,858 to 6,246 DDDs per 1,000 population; the rate of prescriptions increased by just over 2%, from 582 to 595 prescriptions per 1,000 population and at the same time these rates vary across provinces. The rate of people prescribed opioids decreased from 132 to 125 people per 1,000 population during the study period overall, but increased with age. Seniors consistently had the highest rates, with more than 1 in 5 receiving a prescription opioid in 2015–2016, of which, 1 in 8 were prescribed a strong opioid on a chronic basis.

Conclusions: On average, smaller quantities per prescription is resulting in fewer opioids being dispensed in Canada. Prescriptions of shorter duration and fewer doses create opportunities for more frequent interactions between healthcare providers and patients.

Describe How This Research Demonstrates Innovation: This analysis provides an update to previously published 2005-2012 data on opioid prescribing trends, as well as an expanded look at strong opioids and chronic use, by age.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The findings of this report highlight the importance of developing pan-Canadian strategies to reduce the harms associated with the use of prescription opioids, including evidence-based prescribing guidelines, prescription monitoring programs and electronic prescribing system.

18. Are Canadian Nurses ready for the legalization of recreational cannabis? - Karey Shuhendler

Co-authors: Josette Roussel, Ashley Chisholm, Chantelle Bailey

Issue and policy research: To assess cannabis-related knowledge amongst nurses and Canadians, and inform the development of CNA recommendations on the proposed federal government legislation on recreational cannabis as well as understand educational gaps self-reported by nurses.

Analysis: Over 90% of Canadians support nurses educating Canadians on the risks and harms associated with recreational cannabis use. Despite the public's strong support that nurses are well positioned to educate Canadians on risks and harms associated with recreational cannabis use, only 62.8% of RNs and NPs report themselves as knowledgeable.

Describe the current status of the policy: CNA has used findings from this survey to advocate for the need to develop specific education for nurses as a key component of a robust public education campaign in advance of legalization of cannabis.

Future implications: CNA is developing educational resources to meet the needs of nurses in Canada, and will undertake an evaluation of the effectiveness of these tools used by nurses to educate people in Canada on the risks, harms and harm reduction strategies for non-medical cannabis use.

Describe how this policy alternative demonstrates innovation: As Canada moves forward with legalization of recreational cannabis, there is consensus from health organizations that a robust public education campaign is necessary to prepare the public for this new policy direction. While CNA has advocated for such a public education approach, we maintain that adequately preparing Canada's nurses is an essential component of such an approach.

Describe how this policy alternative informs change to future public health policy development, practice and/or research: The assessment of nurses' knowledge of risks and harms of recreational cannabis use has been a key element to develop CNA's response to the federal legislation on recreational cannabis and resources to meet the needs of nurses in Canada. CNA will undertake an evaluation of the effectiveness of tools used by nurses to educate people in Canada on the risks, harms and harm reduction strategies for recreational cannabis use.

19. Are Public Health Nurses in Ontario Schools Legally Required? - Dagmara Mroczkowska

Co-authors: Amy Robinson, Andrew Johnson, Jacob Shelley

Background: Public health nurses (PHNs) have traditionally worked in school, and Ontario has committed to provide schools with PHNs under s. 5(3) of the *Health Protection and Promotion Act*. PHNs are assigned to multiple schools and can have a high caseload (up to 14,000 students). In recent years, Ontario has passed laws requiring schools to enact health policies, including: *Ryan's Law (Ensuring Asthma Friendly Schools)*, 2015,

Sabrina's Law, 2005 (anaphylaxis), and *Rowan's Law Advisory Committee Act, 2016* (concussion). The Ministry of Education also has Policy/Program Memorandums requiring health policies, such as No. 150 (sets out nutrition standards for food and beverages sold in schools) and No. 158 (requires all school boards to have a policy on concussion).

Issue and policy research: This presentation considers whether, in light of these requirements, a full-time, on-site PHN is legally required in each school in Ontario.

Analysis: We examine the requirements of the aforementioned laws/policies and evaluate the role ascribed to PHNs. Based on the language in the policies, the expectations of PHNs, and the indeterminate risks that PHNs address, we argue that to be compliant, a full-time, on-site PHN is required in each school. We then assess whether individual schools, boards, or the province, can be found liable for failing to meet this requirement.

Describe the current status of the policy: Current social and policy expectations suggest that each school should have a full-time, on-site PHN, but this expectation is not being met.

Future implications: PHNs play an important role in the promotion of physical, mental and social health and prevention of disease and injury in children.

Describe how this policy alternative demonstrates innovation: Legal analysis can help explore any legal obligations and assist with a liability assessment.

Describe how this policy alternative informs change to future public health policy development, practice and/or research: Full-time, on-site PHNs are necessary for research into student health and safety.

20. Perception of marijuana access among youth in the COMPASS study - Amanda Stypulkowski

Co-author: Scott Leatherdale

Background: Access to marijuana and marijuana use among Canadian youth remains high despite being an illicit substance and evidence linking use to adverse health effects. Factors that influence how youth perceive access to marijuana are often overlooked in research, although theory suggests that insight can be gained from how youth access alcohol and cigarettes.

Objectives: The purpose of this study was to examine how personal characteristics, behavioural characteristics, and individual opportunities and constraints influence youth perceptions of marijuana access.

Methods: Cross-sectional student-level data collected from the COMPASS host study (Year 4: 2015-2016) was utilized for this study. Student-level data was available for 40,436 grade 9 to 12 students attending secondary schools in Ontario and Alberta, Canada. Logistic regression modelling was used to examine student characteristics associated with the likelihood of perceiving marijuana access as easy.

Results: Any previous use of marijuana increased the likelihood of perceiving marijuana access as easy relative to never users. Engagement in risk-taking behaviours such as binge drinking, smoking, and skipping class were associated with an increased likelihood of perceiving access to marijuana as easy. Reported ease of access increases with each successive grade level.

Conclusions: Findings are consistent with the literature on youth access to alcohol and cigarettes which suggest that older youth, males, and the co-occurrence of risk behaviours are predictors for perceived ease of access to marijuana.

Describe How This Research Demonstrates Innovation: Findings from this study can be used to compare how perceived access to marijuana changes among youth after legalization in Canada.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This evidence suggests that there are great opportunities to improve marijuana control, particularly

among older youth populations. Future research should evaluate where secondary school students access marijuana from to implement effective prevention strategies.

21. Results from a pilot of the International Alcohol Control Study in Ontario: A focus on harms and attitudes - Justin Lang

Co-authors: Heather Orpana, Robert Geneau, Norman Giesbrecht, Robert Mann, Gina Stoduto, Mark van der Maas

Background (Optional): Alcohol is the second leading behavioral cause of the burden of disease in Canada, and was responsible for approximately 350,000 disability adjusted life years in 2016. Policy approaches to alcohol control have demonstrated effectiveness in impacting on alcohol use and resulting harm

Objectives: The aim of this pilot study was to adapt and test the International Alcohol Control (IAC) Study survey and pilot it in one province. This abstract presents results from the pilot generally and the alcohol-related harms and attitudes modules specifically.

Methods: Five hundred adult participants from Ontario who had consumed alcohol in the past six months were administered one of two modified IAC Study surveys, including questions about alcohol purchasing and consumption, harms related to one's own or someone else's drinking, and attitudes towards alcohol policies.

Results: Almost 9% of the sample reported ever being injured as a result of their own drinking, and almost 15% reported being ever injured as the result of someone else's drinking. 39% of the sample reported experiencing negative effects in general of someone else's drinking in their lifetime, and 10% reported negative effects in the last 6 months. Respondents' support for alcohol policies varied, from 83% supporting drinking and driving counter-measures to 9% supporting an increase in alcohol pricing.

Conclusions: The IAC Study survey can be implemented effectively in Canada with some modifications. A cross-Canada longitudinal implementation of the IAC Study, including the Policy Analysis Protocol will provide critical data to inform alcohol policy for municipal, provincial/territorial and federal governments.

Describe How This Research Demonstrates Innovation: This pilot is a first step in implementing the IAC Study across Canada. The IAC Study is innovative in that it focusses on assessing the impact of changes to policy through a longitudinal research platform.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The IAC Study will allow for the rigorous study of changes of drinking behavior in response to changes in alcohol policy across Canada.

22. Cardiorespiratory fitness is associated with physical literacy in a large sample of Canadian children aged 8 to 12 years - Justin Lang

Co-authors: Jean-Philippe Chaput, Patricia Longmuir, Joel Barnes, Kevin Belanger, Grant Tomkinson, Kristal Anderson, Brenda Bruner, Jennifer Copeland, Melanie Gregg, Nathan Hall, Angela Kolen, Kirstin Lane, Barbi Law, Dany MacDonald, Luc Martin, Travis Saunders, Dwayne Sheehan, Michelle Stone, Sarah Woodruff, Mark Tremblay

Objectives: The objective of this study was to assess the relationships between cardiorespiratory fitness (CRF), measured using the 20-meter shuttle run test (20mSRT), and components of physical literacy (PL) among Canadian children aged 8–12 years.

Methods: A total of 9,393 (49.9% female) children, with a mean (SD) age of 10.1 (1.2) years, from a cross-sectional surveillance study were included for this analysis. The shuttle run was administered using a standardized 15-m or 20-m protocol. All 15-m shuttle run values were converted to 20mSRT values using a standardized formula. The four domains of PL (physical competence, daily behaviour, motivation and

confidence, and knowledge and understanding) were assessed using the Canadian Assessment of Physical Literacy. Tertiles were identified for 20mSRT laps, representing low, medium, and high CRF for each age and sex group. Cohen's *d* was used to calculate the effect size between the low and high CRF groups.

Results: CRF was strongly and favourably associated with all components of PL among school-aged Canadian children. The effect size between low and high CRF tertile groups was large for the physical competence domain (Cohen's *d* range: 1.11–1.94) across sex and age groups, moderate to large for motivation and confidence (Cohen's *d* range: 0.54–1.18), small to moderate for daily behaviour (Cohen's *d* range: 0.25–0.81), and marginal to moderate for knowledge and understanding (Cohen's *d* range: 0.08–0.70).

Conclusions: This study identified favourable associations between CRF and PL and its constituent components in children. Future research should investigate the sensitivity and specificity of the 20mSRT in screening those with low PL levels.

Describe How This Research Demonstrates Innovation: This is novel research that describes the associations between CRF and PL in children.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: CRF can be measured easily using the 20mSRT and it can be used as a indicator of PL to help guide curriculum policy development.

23. Weight loss behaviors in children aged 8-10 years increases the risk of body dissatisfaction 2 years later - Soren Harnoïs-Leblanc

Co-authors: Andraea Van Hulst, Catherine M. Sabiston, Katerina Maximova, Marie-Pierre Sylvestre, Mélanie Henderson

Background: Weight loss behaviors are cross-sectionally associated with body dissatisfaction and weight misperception in adolescents, studies examining prospective associations from childhood to early adolescence are lacking.

Objectives: Evaluate the relationships between weight loss behaviors and weight-related stress in 8-10y children with body dissatisfaction and weight misperception 2y later.

Methods: Data stem from the Quebec Adipose and Lifestyle Investigation in Youth (QUALITY) cohort of children aged 8-10y with at least one obese biological parent (n=630). Weight loss behaviors and weight-related stress were reported by children at baseline. Body mass index z-scores (zBMI) were calculated from measured weight and height. Body dissatisfaction and weight misperception were assessed with Collins' sex-specific 7-silhouettes scales at follow-up. We performed multivariable logistic regressions adjusting for sex, age, puberty, zBMI, parental BMI and educational level. Results were stratified by weight status.

Results: At 10-12y, 28% and 86% of normal-weight and overweight/obese children desired to be thinner, respectively. Weight underestimation was observed in 72% of the normal-weight and 85% of the overweight/obese children. Children who engaged in weight loss behaviors were 2-5 times more likely to experience body dissatisfaction 2y later. Weight-related stress was prospectively associated with a higher likelihood of body dissatisfaction (OR=3.42 95% CI [1.20-0.77]) and lower likelihood of weight underestimation (OR=0.33 [0.14-0.73]) in overweight/obese children only.

Conclusions: An alarming number of children reported body dissatisfaction and weight misperception. Weight loss behaviors at 8-10y seem to predispose to body dissatisfaction in early adolescence.

Describe how this research demonstrates innovation: There is a paucity of longitudinal studies on the relationship between weight loss behaviors, body dissatisfaction and weight misperception in children.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Public health initiatives are needed to inform parents, educators and other role models on the link

between weight loss behaviors and body dissatisfaction in both children of normal or excess weight. More research is needed to better understand the determinants of body dissatisfaction and weight misperception at a young age.

24. Weight loss behaviors and weight-related stress in children: do they predict adiposity over 2 years? - Soren Harnois-Leblanc

Co-authors: Andraea Van Hulst, Catherine Sabiston, Katerina Maximova, Marie-Pierre Sylvestre, Mélanie Henderson

Objectives: We assessed the prevalence of weight loss behaviors and weight-related stress in 8-10y children and whether they are prospectively associated with adiposity 2y later.

Methods: Data stem from the Quebec Adipose and Lifestyle Investigation in Youth (QUALITY) cohort of children aged 8-10y with at least one obese biological parent (n=630). Weight loss behaviors and weight-related stress were reported by children at baseline. Weight, height and puberty were measured at baseline and after a 2y follow-up. Body mass index z-scores (zBMI) were computed and % body fat (%BF) was measured with DEXA. Waist-to-height ratio (WHtR) was computed by dividing waist circumference by height. We used multivariable linear regressions adjusted for age, sex, puberty, parental BMI, socioeconomic status and baseline adiposity.

Results: Almost 50% of girls and boys had ever tried to lose weight. Weight-related stress was experienced in 24% of girls and 20% of boys. Prior to adjusting for baseline adiposity, weight loss behaviors (=9.78 95% CI [8.27–11.30]) and weight-related stress (=8.33 [6.25–10.40]) were associated with higher %BF 2 years later when accounting for all other covariables. When adjusting for baseline %BF, these associations were no longer observed. Findings were similar for zBMI and WHtR. Associations did not differ by sex or weight status.

Conclusions: Weight loss behaviors are highly prevalent in children with familial obesity. These are associated with higher adiposity 2 years later, but not its change with respect to baseline adiposity.

Describe How This Research Demonstrates Innovation: This is the first study to our knowledge that investigated the prevalence of weight loss behaviors in prepubertal children and its association with adiposity over 2y.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Primary health care workers need to be aware of the high prevalence of weight loss behaviors, even among prepubertal children. Public health interventions are needed to prevent unnecessary and potentially harmful weight loss behaviors in children.

25. Prevalence of Children with Special Educational Needs in Ontario and their Developmental Health at School Entry - Salmi Noor

Co-author: Magdalena Janus

Background: One in every nine children in Ontario has special educational needs (SEN), however, the distribution of SEN is unequal among schools.

Objectives: To conduct descriptive analyses of school prevalence of SEN and demographic characteristics for the SEN population.

Methods: This study uses data from the Early Development Instrument (EDI; kindergarten measure of child development), administered in Ontario between 2010-2012, and neighbourhood-level socioeconomic status (SES) to examine associations between SEN distribution and children's developmental health outcomes. Overall school SEN prevalence and demographic characteristics of the SEN population were examined. Analyses of associations among SEN distribution, neighbourhood SES and kindergarten outcomes are ongoing.

Results: Non-SEN and SEN children had a mean age of 5.67 and 5.70 years respectively. SEN prevalence was

higher among males than females, with 5.4% and 2.4% respectively. Ontario EDI data reveal overall SEN prevalence of 3.7% with large variation between 0.6% to 85.7% per school among a total of 2,196 schools. Despite the wide range, 99% of the schools had SEN prevalence in the lowest quintile with mean and median SEN prevalence of 5.5% and 4.2%.

Conclusions: Analysis shows significant clustering of SEN school prevalence in the lowest quintile, thereby prompting further exploration of factors that might explain this pattern.

Describe How This Research Demonstrates Innovation: This research examines previously unaddressed question of clustering of remedial and special needs populations at school level, which can only be explored with population-level data such as the EDI.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study will be one of the first to provide population-level data to further investigate outcomes for students with SEN to demonstrate whether prevalence is associated with better or worse developmental outcomes, thereby informing policy surrounding adequate SEN resource allocation in relation to where these children live.

26. Support Matters: An Opportunity to Reinforce Families through the Development of Social Networks at Physical Activity Programs for Children with Neurodevelopmental Disabilities - Michelle Chakraborti

Co-authors: Precilia Kong, William McKellin, Anton Miller, Jean-Paul Collet

Background: Family, according to the WHO, is the most significant environmental factor affecting child development, especially for children and youth with neurodevelopmental disabilities (CYND). However, families are often destabilised by a constant need to adapt to the child's challenging demands. Consequently, families are distressed and resort to isolation, affecting their quality of life, mental health and the child's development. This highlights the need for resources such as programs capable of supporting families through social integration, while simultaneously, supporting CYND. Community based physical activity programs (PAPs) which support CYND, may be the solution. Besides benefits they provide CYNDs, PAPs have the potential to strengthen families by forming social networks (SNs) among families.

Objectives: To examine (1) PAPs' potential for SN development; (2) impact of PAP-related SNs on families'; and (3) importance of PAP-related SNs compared to other SNs.

Methods: 50 families of CYND between 2 to 24 years from 24 PAPs across BC : mixed-methods; information collected at baseline and after 3 months using structured interviews, observation and standardized scales on social integration, quality of life, resilience, and empowerment.

Results: Thematic analysis of the baseline interviews (n=25) illustrated that PAPs strengthen families through SN formation. Emergent themes suggest PAP-related SNs promote the sense of community, provide emotional support, reduce child-related stress, empower parents and improve child-care. Furthermore, 75% families ranked PAP-related SNs as 'most important support' compared to other supports, as they simultaneously benefit from socialization with families while their child benefits from PAPs.

Conclusions: Preliminary evidence suggests PAPs represent a promising platform that potentially reinforces families through the development of social networks that positively reinforces parents.

Describe How This Research Demonstrates Innovation: PAP's have the potential to support both families and CYND simultaneously, enabling a continuous improvement in their health outcomes. Ultimately, strengthened families provide better care to children.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: PAP's represent a dual synergistic system that socially reinforces and strengthens families while supporting CYND development.

27. Utilisation et effets d'une plateforme web pour soutenir les parents d'enfant présentant des difficultés motrices - Gabrielle Pratte

Contexte: Les difficultés motrices surviennent fréquemment chez les enfants et peuvent contribuer à long terme à des problèmes de santé publique (ex : anxiété, problèmes cardiovasculaires). La combinaison des approches de santé publique et de réadaptation peut renforcer les capacités des parents à promouvoir le développement harmonieux de leur enfant. Puisque les parents effectuent des recherches sur le Web lorsqu'ils ont des inquiétudes à propos de leur enfant, le soutien en ligne mérite d'être évalué.

Objectifs: 1-Explorer la faisabilité d'utiliser une plateforme web pour soutenir les parents d'enfants ayant des difficultés motrices. 2-Décrire l'utilisation de la plateforme par les parents et évaluer l'impact de cette utilisation sur leurs connaissances et leurs compétences.

Méthodes: Les parents d'enfants âgés de 5 à 12 ans présentant des difficultés motrices ont été recrutés pour une étude randomisée de faisabilité. Le groupe d'intervention (n=15) a eu accès pendant trois mois à une plateforme web comprenant des ressources informationnelles, un forum et la possibilité d'interagir virtuellement avec une ergothérapeute par messagerie privée ou vidéoconférence. Le groupe témoin (n=13) avait accès aux ressources informationnelles. Des statistiques d'utilisation de la plateforme web, des questionnaires pré-post et des entrevues qualitatives ont été utilisés.

Résultats: L'intervention était faisable, mais le recrutement était difficile et le taux d'utilisation de la plateforme était faible (médiane: 1 visite / parent). Les parents ont utilisé principalement les ressources et le forum et moins les interactions privées avec l'ergothérapeute. Aucun effet de groupe ou de temps n'a été trouvé pour les connaissances parentales. Cependant, la compréhension par les parents de l'impact des difficultés motrices sur leur enfant a augmenté chez les familles qui n'avaient pas encore reçu de diagnostic.

Conclusions: L'utilisation d'une plateforme web pour soutenir les parents qui ont des inquiétudes au sujet du développement moteur de leur enfant est prometteuse et faisable, mais nécessitera plus de recherches pour s'assurer de bien répondre aux besoins des familles.

Décrivez comment cette recherche démontre l'innovation: Les plateformes offrant des interactions virtuelles avec les parents sont relativement nouvelles, en particulier en réadaptation pédiatrique, et doivent être plus étudiées pour comprendre les nouvelles possibilités de soutien aux parents qu'elles représentent.

Décrire comment cette recherche influence le changement dans la recherche future en santé publique, l'élaboration de politiques ou la pratique: Cette recherche illustre comment une plateforme web peut contribuer à développer les connaissances des parents et à réduire les consultations spécialisées en santé.

28. L'impact des conditions de vie des mineurs étrangers non accompagnés sur leur santé physique et mentale à Paris : une recherche mixte - Lara Gautier

Co-auteurs : Marianne Maître, Victoria Négre, Dominique Dumand, Sophie Laurant

Contexte : Un nombre croissant de migrants sont des enfants qui fuient leurs pays et leurs familles. En France, le dispositif d'évaluation de la minorité des jeunes prononce dans 80 % des cas une non-reconnaissance de leur statut de mineur. Cette situation les empêche d'accéder aux services de protection de l'enfance, et les plonge dans une situation d'extrême précarité.

Objectifs : L'objectif de cette enquête est d'analyser la précarité des conditions de vie des mineurs étrangers non accompagnés (MNA) et leurs répercussions sur leur santé physique et mentale.

Méthode : Cette recherche utilise les méthodes mixtes. La taille de l'échantillon est de 86 participants. Un questionnaire comprenant à la fois des questions de nature fermée et ouverte est administré à chaque participant. Des statistiques descriptives permettent d'analyser les réponses fermées. Les réponses de type qualitatif sont codées puis analysées de façon thématique. Les deux corpus de résultats sont ensuite assemblés pour l'interprétation.

Résultats : La vie dans la rue (89%) représente un facteur important de dégradation de l'état de santé physique des MNA, qui y attrapent fréquemment des maladies et dorment dans de mauvaises conditions. Une double instabilité – le nombre de lieux de vie et la courte durée passée dans chaque lieu – affecte négativement la santé mentale des jeunes.

Conclusions : L'extrême précarité des conditions de vie des MNA conduit à une dégradation de leur état de santé physique et mentale. Il est urgent de construire un environnement sain et sécurisé pour les MNA.

Décrire comment cette recherche innove : Il s'agit de la première recherche analysant les conditions de vie des MNA, une population particulièrement vulnérable. Le devis mixte permet de faire ressortir la complexité des situations vécues par les MNA.

Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs : Cette recherche peut éclairer les chercheurs et praticiens de la santé publique sur le plaidoyer politique à construire en faveur des MNA en France mais aussi au Canada.

29. Children's perspectives on barriers and enablers of bicycle helmet and booster seat use in Manitoba - Caroline Piotrowski

Co-authors: Lynne Warda, Curt Pankratz, Kate Dubberley, Harriet Assam, Mateja Carevic

Background: Mandatory bicycle helmet and booster seat laws for children under the age of 18 years were enacted in Manitoba in 2013. Previous research has found that, despite legislation, child compliance is often low.

Objectives: Our objectives were to investigate children's perspectives on barriers and enablers of bicycle helmet and booster seat use.

Methods: Twelve focus groups were conducted at 12 and 24 months post-legislation; 6 groups of children (aged 4-8) discussed booster seats and bicycle helmets and 6 groups of children (aged 9-13) separately discussed bicycle helmets. A total of 73 children were recruited using community advertisement, snowball referral, and word of mouth; efforts were made to include participants from a variety of cultural, language, and socioeconomic backgrounds.

Results: Fit and comfort were most often described as barriers to bicycle helmet use. Helmet appearance was a barrier for some children, but acted as an enabler for others. Booster seat enablers included having drink cup holders and being able to sit higher up in order to have a better view, while barriers included feeling embarrassed in front of friends who do not use booster seats or feeling excluded from wearing adult seatbelts.

Conclusions: Children were well aware of safety reasons to use bicycle helmets and booster seats and were motivated to comply; however the main barriers to compliance they described were modifiable and should be targeted in injury prevention campaigns.

Describe How This Research Demonstrates Innovation: Children's perspectives on barriers and enablers of their use of injury prevention equipment are not often sought out. Our findings provided unique information which complements findings from parents and other sources.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Specific barriers and enablers can be targeted in future Canadian injury prevention campaigns designed to increase compliance with booster seat and bicycle helmet legislation.

31. A Characterization of Children's Lunches at School in Urban and Rural Locations in Saskatchewan - Tracy Everitt

Co-authors: Rachel Engler-Stringer, Wanda Martin

Background: Recent research shows that the diet quality of Canadian children during school hours is poor. There is significant international evidence for the higher nutritional quality of food in school meal program lunches compared to lunches brought from home, yet very little research on school food has been conducted in the Canadian context.

Objectives: To characterize the school lunches and snacks of elementary school children in Saskatoon and the surrounding rural areas.

Methods: Data collection involved characterizing lunches in schools that have a meal program, those that do not have a meal program and rural schools, using a school food checklist and digital photographs. The School Food Checklist was informed by checklists used in other studies which were found to be an efficient and accurate method of obtaining dietary information in schools.

Results: Our final sample size includes the lunches of 741 children in the three locations. Our preliminary results show that meal program participants have more whole grains in their lunches compared to children who bring food from home and that students not in meal programs have significantly more calories in their lunches from unhealthy foods. Final results include a comparison of the overall nutrient density of foods brought to school in the two geographic locations and served in meal programs.

Conclusions: Overall food provided in meal programs appears to be more nutritious than food brought from home. Elementary school children benefit from meal programs.

Describe How This Research Demonstrates Innovation: This is the largest known study to date in Canada characterizing what elementary school children are eating at school in rural and urban contexts.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research will be used to inform school nutrition policy and research examining the impacts of a universal school lunch program.

32. The importance of meeting dietary recommendations for mental health: A population-based prospective study of Canadian children - Olivia K. Loewen

Co-authors: John P. Ekwaru, Erin L. Fought, Katerina Maximova, Arto Ohinmaa, Paul J. Veugelers

Objectives: To examine the association of adhering to established dietary recommendations in childhood with mental health diagnosis in adolescence.

Methods: Administrative health data was linked to responses from a population-based lifestyle and nutrition survey among 10 and 11 year-old students ($N=3436$). Harvard Food Frequency Questionnaire responses from students were used to calculate whether they met recommendations (yes/no) for vegetables and fruit, grains, milk and alternatives, meat and alternatives, saturated fat, and added sugar intake. Mental health outcomes were defined by physician diagnosis from 2011 to 2014 or before 14th birthday according to ICD-9 CA or ICD-10 codes. Mixed-effects negative binomial regression models adjusting for demographic confounders and caloric intake were used to determine the associations of diet with mental health.

Results: Meeting dietary recommendations were associated with decreased incidence rate ratio (IRR) of number of physician diagnoses for mental health disorders. Specifically, meeting serving recommendations for vegetables and fruit, milk and alternatives, and meat and alternatives was significantly ($p < 0.05$) associated with lower rates of externalizing mental health disorders in subsequent four years by 35.9%, 28.5%, and 37.4%, respectively. Meeting recommendations for added sugars significantly reduced the IRR of internalizing mental health diagnoses by 36.7% ($p=0.005$) and all mental health diagnoses by 31.2% ($p=0.002$).

Conclusions: These findings support the existence of a relationship between diet and mental health, suggesting that adherence to established dietary recommendations improves mental health.

Describe How This Research Demonstrates Innovation: The importance of diet for physical health and development in childhood is well-established; yet it remains understudied and unacknowledged for mental health. This is the first prospective, population-based study to investigate adherence to recommendations from *Eating Well with Canada's Food Guide* with mental health in adolescence.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Mental health constitutes an enormous public health burden affecting 1 in 5 Canadians during their lifetime. Clues for primary prevention are needed; here we show that promoting healthy eating can reduce the mental health burden.

33. Characteristics associated with juice intake in children 5-11 years of age - Andrea Ziesmann

Co-authors: Ruhi Kiflen, Brendan Smith, Jonathon Maguire, Catherine Birken, Laura Anderson

Background:

Sugar containing beverages (SCBs) have been recognized as a major contributor to high sugar intake in children. Although 100% fruit juice is often perceived as a healthier beverage, its relatively high sugar content classifies it as a SCB. Few studies have evaluated factors associated with juice intake in young children in Canadian context.

Objectives: The objective of this study was to identify characteristics associated with juice intake in children between 5-11 years of age.

Methods: A cross-sectional study was conducted among children ages 5-11 years in the TARGET Kids research network in Toronto, Canada from July 2008 to September 2017 (n= 3236). Parent report of daily cups of 100% fruit juice was measured by standardized questionnaires. Multivariable linear regression was used to determine the association between juice consumption and several determinants including age, sex, highest education attained by parent, mother's ethnicity, number of siblings and child body mass index (zBMI).

Results: Mean juice intake was 0.8 cups (SD=0.9) per day with 47% of children drinking more than the *American Academy of Pediatrics'* recommended 4-6 oz./day. Being a male ($\beta = 0.147$, $p < 0.0001$), being an only child ($\beta = 0.213$, $p < 0.0001$), zBMI ($\beta = 0.049$, $p < 0.0031$) and having a mother with Arab, African, Latin American, or Mixed ethnic origins ($\beta = 0.173$, $p = 0.0007$) were associated with increased juice consumption. Having a parent who has attained a college/university education ($\beta = -0.469$, $p < 0.001$) was associated with lower juice consumption.

Conclusions: This study identified several determinants associated with juice intake in children. These characteristics can be used to identify children at greater risk of overconsumption of juice that may contribute to adverse health outcomes.

Describe How This Research Demonstrates Innovation: This research investigates a unique set of variables that can improve knowledge of early determinants of SCB intake among children to develop preventative strategies.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Findings from this research can help inform future interventions aiming to prevent early onset of adverse health outcomes related to sugar consumption.

34. Promoting Healthy Drinking Habits in Children: Results of the Healthy Kids Community Challenge - Bridget Irwin

Co-authors: Andrew Clark, Jason Gilliland, Mark Speechley

Background: Sugar-sweetened beverage (SSB) consumption is a key risk factor for childhood obesity, contributing a substantial proportion of daily calorie intake. As such, there is a growing movement among practitioners and policymakers to replace SSBs in children's diets with water.

Objectives: The objective of this study is to evaluate the effectiveness of London's Healthy Kids Community Challenge 'Water Does Wonders' interventions on improving children's drinking habits.

Methods: A quasi-randomized cluster trial enrolling grade 4-8 children in 13 priority neighbourhoods across London was conducted. Clusters examined include: (1) schools receiving a water bottle filling station (5 schools, n=434); (2) schools receiving a filling station and a nutrition education intervention (5 schools, n=339); and (3) schools receiving a filling station and a water education intervention (6 schools, n=176). Generalized linear mixed models accounting for repeated measures and clustering were used to compare daily self-reported water and SSB consumption across the intervention groups before and after the interventions occurred.

Results: Preliminary analyses suggest an increase in daily water consumption across all groups from pre- to post-intervention, with the greatest difference observed in children receiving both a filling station and a nutrition education intervention. A slight increase in SSB consumption was also observed across all intervention groups.

Conclusions: The results demonstrate that school-based environmental and education interventions may be effective at increasing children's water consumption. The observed increase in SSB consumption from pre- to post-intervention, however, suggests that consuming more water does not displace SSBs in children's diets.

Describe How This Research Demonstrates Innovation: This study employs novel interactive education interventions along with environmental change to alter the culture of drinking water in schools. By understanding the impact of strategies for improving drinking behaviours, practitioners and policy makers can incorporate them into the school environment.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study enhances understanding of the role of environmental and education interventions in improving children's health behaviours. It will inform the development of future school-based water and SSB interventions.

35. Intake of sugar containing beverages before 2 years of age is strongly associated with intake at 5-9 years of age - Ruhi Kiflen

Co-authors: Andrea Ziesmann, Brendan Smith, Jonathon Maguire, Catherine Birken, Laura Anderson

Objectives: To evaluate if SCB intake during early life was associated with increased SCB intake later in childhood.

Methods: A prospective cohort study was conducted using data from TARGet Kids! primary care practice network. Children with a visit before 2 years of age and a follow-up at 5-9 years of age from 2008-2017 were included (n=1,267). Total SCBs, based on daily averages, were defined as the sum of all parent reported soda, sweetened drinks and 100% fruit juice intake at both time points. Total SCB and 100% fruit juice were measured as continuous variables and modeled using multivariable linear regression. Soda/sweetened drinks were categorized as 'ever' versus 'never' consumed and modeled using multivariable logistic regression. Models were adjusted for child age, sex, household education & income, child's BMI, and ethnicity.

Results: Before 2 years of age and at 5-9 years of age, the mean total SCB intake was 0.4 (SD=0.7) and 0.6 (SD=0.8) cups per day, respectively. There was a significant positive association between total SCB intake in early and later childhood ($\beta=0.33$, CI 95% 0.25, 0.41). For each daily cup of 100% juice consumed before 2 years of

age, children consumed 0.31 more cups at follow-up between 5-9 years of age ($\beta=0.31$ 95% CI:0.24, 0.38). Adjusted odds of consuming soda/sweetened drink at >5 years of age was significantly associated with soda/sweetened drink consumption (OR=6.4 95% CI:2.0, 20.1) before 2 years of age.

Conclusions: Early introduction of any SCB was strongly associated with greater SCB intake later in childhood.

Describe How This Research Demonstrates Innovation: There is limited data on early childhood health indicators in Canada and our study is one of the first to describe the longitudinal tracking of total SCB intake in young children.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Our findings suggest that early childhood may be a critical period to establish healthy beverage intake strategies and may inform population prevention strategies.

36. SIDS in Alberta: A Geospatial Analysis of Known Risk Factors in Aboriginal and Non-Aboriginal Communities - Delshani Peiris

Co-authors: Chantal Hansen, Monica Ruff, Ian Mitchell

Background: Alberta population: 4.146 million; live births (2013) 56,078. All unexpected deaths, including infants, are reported to the medical examiner; investigation include scene visit. The rate of SIDS in Alberta has declined in the last 20 years, but rate of SIDS in Aboriginal populations remains high.

Objectives: To combine the epidemiology of specific known SIDS risk factors with Geographic Information Systems (GIS) technologies to understand how the variation of risk factors by geographical area in Alberta changes over time.

Methods: 2371 sudden and unexpected deaths in infancy were investigated by the Medical Examiner in Alberta, 1977-2013; 1955 (82.5%) cases were classified as SIDS. This data and specified risk factors and population characteristics were mapped to generate a visual spatial distribution pattern throughout Alberta. Exploratory spatial data analysis was performed using the Anselin Local Moran's I statistic. Risk factors and/or population characteristics were compared using test of proportions (Chi-Squared).

Results: Maps displaying the spatial distribution of SIDS events in Alberta (1977-2013), specified risk factors and population characteristics were developed. A comparison of community level SIDS outcomes and specified risk factors to overall SIDS outcomes revealed statistically significant clustering. Differences between areas of high SIDS numbers and those with lower numbers was significant, $p < 0.01$, Local Moran's I; $p < 0.05$, Chi-Squared).

Conclusions: SIDS collection points (postal codes) were aggregated to the community/neighbourhood level to explore spatial patterns of specified risk factors. There is noticeable geographical variation in SIDS incidence and specified risk factors within communities of Edmonton and Calgary.

Describe How This Research Demonstrates Innovation: The use of GIS technologies provides a visual depiction of geospatial clusters of SIDS events at one point in time, and over time, and by integrating census information provides further analyses including socioeconomic status. The use of GIS techniques provides insight to and allows for greater understanding of the epidemiology of specific known risk factors of SIDS within populations.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Public policy and health promotion initiatives informed by multiple health surveillance methodologies can create SIDS resources and intervention that develop personal skills in vulnerable populations and create supportive environments for all families.

38. Structural and Social Barriers to Late Termination of Pregnancy Care in Canada - Tamar Austin

Co-authors: Erica Kilius, Caitlin Johnston, Melanie Basso

Objectives: A literature review was undertaken to assess patient experiences with late termination of pregnancy (ToP), considered as ≥ 20 weeks gestation.

Methods: The databases Ovid, Sociological Abstracts, CINAHL, and Google Scholar were used to search peer-reviewed literature, using keywords: late pregnancy termination, abortion, fetal anomaly, induction, patient experiences, qualitative, quality of care, access to care, Canada. Qualitative research articles were preferred. Exclusion criteria included: articles over fifteen years old, not written in English, and from countries with widely different healthcare systems from Canada's. Based on relevance to topic, 23 of 252 reviewed papers were selected for full reading.

Results: Results suggest that multiple structural and social barriers influence women's ToP experiences; however, late ToP was not well explored. Patients identified Canada's abortion system as fragmented and often inaccessible. Wait times, lack of pain management, and privacy concerns were cited as negatively affecting patient experience. Location and travel, compounded by multiple appointments, were mentioned as significant barriers to care. Non-judgmental, knowledgeable staff were valued by women and perceived as providers of higher quality of care. While unbiased staff and practitioner-provided information were seen as a source of empowerment for women during decision-making, it remains unclear to what extent this influenced women's final decisions, and whether different means of communication played any part.

Conclusions: The experiences of women undergoing late termination of pregnancy in Canada are poorly understood. More research is required to develop a better understanding of women who undergo late ToP, and improve programs and services.

Describe How This Research Demonstrates Innovation: This review explores a topic that has thus far been under-researched. There is little published qualitative research on late ToP, even less so in a Canadian context.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Research around late ToP in Canada is severely limited, this review can help create a foundation on which policy makers, program evaluators, and caregivers can make evidence based decisions.

39. Outdoor heat and risk of placental abruption - Siyi He

Co-authors: Nathalie Auger, Marianne Bilodeau-Bertrand

Background: Placental abruption is associated with substantial maternal morbidity and mortality, yet risk factors for abruption are poorly understood. Environmental risk factors for placental abruption are rarely studied.

Objectives: To determine if there is an association between outdoor heat exposure and risk of placental abruption.

Methods: We performed a case-crossover analysis of 17,172 women with placental abruption between May and October in Quebec, 1989-2012. The exposure was defined as the maximum temperature the week before abruption. We computed odds ratios (OR) and 95% confidence intervals (CI) adjusted for relative humidity, and assessed whether associations were stronger before < 37 weeks of pregnancy, or at ≥ 37 weeks. We determined if associations varied with maternal age, parity, comorbidity and socioeconomic status.

Results: Compared with 15°C , a maximum weekly temperature of 30°C was associated with 1.07 times the odds of abruption (95% CI 0.99-1.16). The associations were stronger at term (OR 1.12, 95% CI 1.02-1.24) than preterm (OR 0.96, 95% CI 0.83-1.10). Associations were more prominent for women who were younger than 35 years, nulliparous or socioeconomically disadvantaged, but did not vary with comorbidity.

Conclusions: Elevated temperature is associated with an increased chance of placental abruption at term. During hot weather, pregnant women near term may benefit from preventive measures such as hydration and air conditioning.

Describe How This Research Demonstrates Innovation: This study is the first to assess the relationship between heat exposure and risk of placental abruption. Outdoor heat increases the chance of preterm birth and stillbirth, and placental abruption may be an additional adverse outcome of heat exposure during pregnancy.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Pregnancy is a vulnerable period for women, especially pregnant women who are at the end of gestation. Pregnant women should be included in groups at risk during heat alerts. Climate change policies should consider pregnant women as a population that may benefit from enhanced prevention activities.

40. Effectiveness of education for health-care providers to improve rates of exclusive breastfeeding up to six months of age - Zainab Lulat

Co-author: Giulia Zucal

Objectives: The WHO recommends infants be exclusively breastfed until six months of age, and breastfeeding be sustained until two years of age and beyond. Unfortunately, global breastfeeding rates fail to achieve this goal. Thus, a systematic review was conducted to examine the effectiveness of education for health-care providers on breastfeeding outcomes. The results were used to develop evidence-informed recommendations for a best practice guideline.

Methods: A comprehensive literature search was conducted in seven academic databases. The search was limited to articles published in English between January 2011 and April 2017. Due to an abundance of literature on this topic, only systematic reviews were included. Two Masters prepared nurse researchers independently screened records for inclusion, and discrepancies were resolved by a third independent reviewer. Data were extracted into standardized templates, and study quality was appraised using a validated tool. Only studies rated strong or moderate were included in the final analysis.

Results: Three reviews of moderate quality were included. Health-care providers who received breastfeeding training and education demonstrated advancement in knowledge and skills, in addition to improvement in attitudes towards breastfeeding. This translated to an increase in the rate and duration of exclusive breastfeeding, and a positive effect on mother's perception of health-care provider support.

Conclusion: Evidence indicates that theoretical and practical education of breastfeeding principles and skills is essential to increase the rate and duration of exclusive breastfeeding.

Describe How This Research Demonstrates Innovation: This review highlights the essential role that trained and knowledgeable health-care providers have in improving breastfeeding outcomes, and ultimately achieving the WHO's targets.

Describe how this research informs change to future public health research, policy development, and/or practice: To ensure health-care providers are offered ongoing breastfeeding training based on the most current evidence, funding should be provided to healthcare organizations for the implementation of breastfeeding education programs. By providing women with thorough and accurate information and support for breastfeeding, health-care providers are in an optimal position to promote exclusive breastfeeding until six months of age.

41. Organizational and community strategies to support exclusive and sustained breastfeeding: A systematic review of reviews to inform best practice guideline development - Zainab Lulat

Co-authors: Giulia Zucal, Katherine Wallace, Lucia Costantini

Objectives: This review explores organizational and community practices that support exclusive and sustained breastfeeding. Findings will be used to develop recommendations for a best practice guideline.

Methods: A comprehensive search for peer-reviewed literature was conducted in six health sciences databases. Due to the abundance of primary studies in this topic area, inclusion criteria was limited to review studies published in English between January 2011-June 2017. Two Masters-prepared nurse researchers independently screened all records. Discrepancies were resolved by a third reviewer. Findings were synthesized narratively following data extraction and quality appraisal. As results were used to develop recommendations, studies appraised to be low quality were not included in analysis unless further information was required.

Results: Twenty-one review studies were identified. Seven reviews appraised to be of strong or moderate quality were included, in addition to two low quality reviews that discussed breastfeeding within a Canadian context. Organizational and community strategies that support exclusive and sustained breastfeeding include: Baby-Friendly Hospital Initiative (BFI) designation, inclusion of lactation specialists into breastfeeding programs, and workplace maternity leave of absence policies.

Conclusions: Exclusive and sustained breastfeeding can be supported through organizational initiatives that incorporate strategies within hospitals, communities, and workplaces.

Describe How This Research Demonstrates Innovation: Although much focus is placed on individual-level breastfeeding strategies, this review acknowledges the role of organizations and workplaces in supporting breastfeeding. A combination of approaches is optimal to achieve breastfeeding targets.

Describe how this research informs change to future public health research, policy development and/or practice: This review highlights the importance of BFI designation in organizations to standardize practice. Lactation specialists within the community are also an important source of information and counselling regarding optimal breastfeeding practices. Supportive workplaces that enforce breastfeeding policies and empower women to achieve exclusive breastfeeding are also recognized.

42. Shifting the Conversation: A Collective Responsibility for Supportive Breastfeeding Environments - Sionnach Lukeman

Co-authors: Jacqueline van Wijlen, Erin Austen

Background: In order to improve breastfeeding rates, investment in interventions at a societal level, where most barriers for breastfeeding women exist, is needed. Fostering collective responsibility is essential to create community environments that support women to breastfeed, especially in public.

Program Purpose: To highlight an exemplar initiative that fosters a supportive environment for breastfeeding in communities.

Target Groups: Public Health practitioners are the target group as they are tasked with upstream, population health approaches. Rather than being the responsibility of individual practitioners, however, this is an opportunity to shift the conversation to the broader system so policy makers and researchers can also learn from this collective approach.

Activities: Following community consultation, a room in a mall was initiated by a non-profit organization dedicated to supporting breastfeeding at the population level in collaboration with the business community, and community members.

Deliverables: a) Provide rationale from the literature on why breastfeeding is a collective responsibility and identify ways we can create supportive environments to influence social nor b) Learn from the successes and

challenges experienced during a partnership in a rural region between the business community and a non-profit organization.

Describe how this public health practice/program demonstrates innovation: The development of a space in a mall involved a unique partnership between the business community and a non-profit organization whose mission is to create supportive environments for breastfeeding “anytime and anywhere”. Community members as well as nursing students were involved in the development and design of the space. This participatory approach is an example of upstream action to support breastfeeding that is rooted in community engagement.

Describe how this practice/program informs change to future public health practice, research and/or policy development: This example of a breastfeeding intervention from practice will highlight the time commitment and partnerships required to support breastfeeding at the population level. It is also an exemplar of community engagement using a participatory approach. Lastly, it has the potential to highlight gaps in policy and research that need to be addressed to support further action at this level.

43. Digital marketing to promote healthy weight gain among pregnant women in Alberta - Jocelyn Graham

Co-authors: Jana Moore, Terri Miller, the ENRICH Research Team

Program Purpose: The purpose of the digital marketing campaign was to increase public awareness about healthy pregnancy weight gain and to direct an online audience to evidence-based information on the Alberta Health Services resource, www.healthyparentshealthychildren.ca

Target Groups: Pregnant women, or women planning a pregnancy, in Alberta, Canada.

Activities: Three phases of an online digital marketing campaign occurred between January 2 and December 3, 2017. Each phase lasted 8 weeks and consisted of two Facebook ads, in addition to search engine marketing (SEM) ads using Google AdWords. The audience was defined as female, age 18-44, who have shown interest in pregnancy topics. Between active advertising phases, staff reviewed results and adapted the marketing strategy.

Deliverables: Across all Facebook ads there was a total of 772,263 impressions (number of times the ad was displayed), 14,482 clicks and an average click-through rate (CTR) of 1.88%. The highest performing ad was an image of a group of diverse pregnant women with the headline: *Pregnancy weight is not the same for every woman*. SEM ads received a total of 43,449 impressions, 2,522 clicks and an average CTR of 5.80%.

Describe how this public health practice/program demonstrates innovation: This project contributes to understanding how to effectively develop and manage a digital marketing campaign using two tactics to promote awareness about a health topic. Facebook allowed us to target a relevant audience who are not necessarily seeking information; SEM reached a highly interested audience and directed them to reliable information.

Describe how this practice/program informs change to future public health practice, research and/or policy development: The positive results achieved with this small-scale campaign demonstrate the potential of digital tactics for promoting health information. The ability to track ad reach and audience interaction with different ad types serves as a baseline for measuring success of future campaigns. This work is useful to organizations implementing digital tactics and it encourages further research regarding the impact of online engagement on behaviour change.

44. Connecting with clients: evaluating a parenting Facebook page - Victoria Cole

Co-authors: Amanda Clarke, Beverley Croft, Tania O'Connor

Background: In 2014, Ottawa Public Health (OPH) launched a Parenting in Ottawa (PiO) Facebook page to connect with local families and today has 15,500 followers.

Objectives: The evaluation aimed to gather demographic data on Facebook clients, determine the impact of the PiO page on Ottawa families, and evaluate the user's experience.

Methods: An online survey was disseminated to PiO Facebook followers in 2017 to collect data about users and their experience. 1166 Facebook posts were analyzed and categorized by type, topic, and web-link inclusion. The average number of comments per post was used to gauge client engagement.

Results: The 400 respondents were predominantly female (86%), heterosexual (76%), a parent/legal guardian (86%), between 25 and 34 years old (48%), and working full-time (43%). Ethnicity, immigration status and income of respondents were comparable to the general Ottawa population. Three-quarters (76%) of respondents reported the Facebook page had a positive effect on their family's well-being. However, 24% of respondents weren't comfortable discussing parenting online and 66% of respondents preferred to read posts but not participate. OPH posts commonly included one-way information sharing (50%), invitations to share advice/experiences (21%), and requests to share multimedia (17%). Most frequent posts were non-health (27%), nutrition (12%), and growth & development (11%). Clients most engaged with true/false posts and infant feeding posts.

Conclusions: Facebook is an effective public health tool to reach Ottawa parents. It allows the sharing of experience-based health information from online peers and access to credible health information.

Describe How This Research Demonstrates Innovation: This evaluation was not limited to counting overall likes and shares but included a robust content analysis and evaluation of client engagement. User-perceived impact of the PiO Facebook page was described.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This evaluation demonstrates the effectiveness of Facebook-based public health initiatives and identifies factors for consideration when developing and delivering programming.

45. Social Media and Health Promotion: Lessons from Tanzania - Sajjad Fazel

Co-authors: Maryam Mohamedali, Mark Speechley

Background: According to the WHO, non-communicable diseases has overtaken infectious diseases as the leading cause of mortality worldwide with up to 80% of the burden being in developing countries. Tanzania, a country with limited health infrastructure, faces the double burden of communicable and non-communicable diseases (NCDs). Though preventable, NCDs have not attracted sufficient attention from most health institutions and organizations in the region. The country does however, have reliable internet and easy access to cheap smartphones. "Afya Yako" thus emerged in 2016 as an innovative health-awareness program that educates the public on various health issues, and answers priority questions.

Program Purpose: The purpose of Afya Yako is to reduce the currently escalating rate of NCDs among Tanzanians through awareness, understanding and providing education on the prevention of NCDs.

Target Groups: Vulnerable Tanzanian population with internet access

Activities: These activities were conducted in Swahili across major social media platforms: Weekly interactions; Health infographics; and Educational videos.

Deliverables: Within the Tanzanian vulnerable population, Afya Yako has:

- Increased levels of awareness, understanding and prevention of NCDs.
- Motivated participants to exercise, cease smoking, and maintain healthy diets.
- Enabled users to become change agents in their communities by further educating their network.
- Demonstrated the importance of social media in advocating for good health practices.
- Encouraged Ministry of Health to create consequential health policies regarding NCDs.

Describe how this public health practice/program demonstrates innovation: In contrast to conventional health promotion methods, Afya Yako has demonstrated that disseminating health education through social media does not only engage a large population but also facilitates an open dialogue between providers and the public, fostering a deeper understanding of various health topics.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Afya Yako reveals the untapped potential for social media in public health in resource-constrained regions. The power of social media can be harnessed and beneficially used to foster open dialogue with the public through easy access, privacy and tailored content.

46. Promoting Healthy Hygiene Practices in Rural Guatemala - Nancy McGee

Background: In rural Guatemala there is limited access to healthcare and clean water. To help reduce these inequities, the interprofessional team worked with indigenous communities to develop skills and implement personal health practices related to hygiene and women's health. Once individuals developed skills they were encouraged to share with others in the community.

Program Purpose: To work collaboratively with community members to meet preventative health goals.

Target Groups: Indigenous women and all community members.

Activities: The interprofessional team worked with indigenous women to increase their awareness of sustainable personal hygiene by learning about menstruation and how to sew reusable menstrual pads. Additionally, community members learned about hand hygiene and constructed basic handwashing stations (tippy taps) at their homes. Once a 'tippy tap' was constructed, the recipient then worked with a neighbour, assisting them to construct one at their home.

Deliverables: Women reported that they are using the reusable menstrual pads. Many of the women had shared the idea of using reusable pads with their daughters; however, sharing the idea with others caused embarrassment because people would think that they were too poor to buy disposable pads. Several more tippy-taps were built and are being used. Challenges include: shame and stigma related to menstruation; lack of running water to wash reusable pads; and difficulty finding waterproof material to make additional pads.

Describe how this public health practice/program demonstrates innovation: Training local community members builds capacity to assist and train others leading to increased community engagement in health promotion activities.

Describe how this practice/program informs change to future public health practice, research and/or policy development: This project demonstrates the importance of working in partnership to actively engage community members. The implications for future public health practice are to consider the impact of the social determinants of health, particularly poverty on health in a rural context.

47. Innovative vaccine development in low-resource settings: an ethical perspective - Machteld van den Berg

Co-authors: Marcel Tanner, Nikola Biller-Andorno, Nelson Sewankambo, Bernhards Ogutu

Background (Optional): Recently, through a public-private partnership with PATH Malaria Vaccine Initiative (MVI) and GlaxoSmithKline (GSK), a malaria vaccine candidate (RTS,S) targeting children received positive reviews from European regulators and was recommended by the WHO for pilot-study implementation in three selected countries. These pilot studies will be carried out in Kenya, Malawi and Ghana before broader roll-out can and will be recommended.

Objectives: In recent years there has been accelerated investment in the push for the development of a malaria vaccine. In this study the ethical aspects of such an endeavor are explored. Through empirical evidence gathered from semi-structured interviews, an ethical framework identifying key ethical concerns is presented.

Methods: We conducted a total of 39 interviews in Uganda and Tanzania with parents of children enrolled in a pediatric malaria vaccine clinical trial. The interviews were semi-structured and used elements of grounded theory methodology.

Results: Based on the experience of the parents, the respondents shared their perspectives on the malaria vaccine clinical trial their child was enrolled in. The responses allowed for the identification of three broad themes: 1) standards of care 2) comprehension of the research study 3) context-specific vulnerability.

Conclusions: The low-resource setting of research and development for a malaria vaccine enhances the vulnerability of the participants. Through providing information on access to care and the study details in lay language, communication tools can reduce these ethical concerns. By working together with the local communities, the utilization of these tools can mitigate context-specific challenges around vulnerability and foster shared ownership of the research leading to more positive health outcomes and effective vaccine implementation.

Describe how this research demonstrates innovation: Integration of ethical reflection alongside the development of a tool developed to reduce the global malaria burden, in line with the aims of SGD3, communicated through an innovative public health framework.

Describe how this research informs change to future public health research, policy development and/or practice: These findings contribute to a public health framework to inform researchers and policy makers regarding malaria vaccine study design and integration.

48. A scoping review: understanding the Canadian dialogue on vaccine-injury compensation - Sandani Hapuhennedige

Co-authors: Colleen Nisbet, Charles Gardner, Colin Lee

Background: Serious adverse events following immunization (AEFIs) are rare experiences that can lead to long-term disability. These events have influenced decision-making regarding compensation, where 19 jurisdictions worldwide have now implemented a vaccine-injury compensation (VIC) program, including Quebec. The unavailability of VIC in other provinces/territories has raised concern.

Objectives: The main objective of this research was to explore the Canadian dialogue on VIC and understand why it remains intangible in other provinces/territories.

Methods: This study involved a search of three databases (Medline, CINAHL, JSTOR). Using purposive sampling, nationally-recognized subject-matter experts (SMEs) were interviewed (N = 11) to learn more about immunization priorities in Canada. Grey literature from three sources were also included: Custom Search for Canadian Government Documents, Canadian Newsstream (ProQuest), and social media.

Results: There has been minimal academic discussion on the topic of VIC in Canada. SMEs contextualized this finding by revealing current immunization priorities, therein suggesting the lack of a policy window at present. However, review of the grey literature revealed numerous news articles and reports that have discussed VIC in more recent years; this dialogue suggests enduring interest in VIC.

Conclusions: This study provides a synthesis of the Canadian dialogue on VIC since the 1980s. Methodological triangulation enhanced the analysis of this dialogue and provided insight on the various factors that have promoted or compromised the VIC agenda. These collated findings help to answer the question of why provinces/territories, other than Quebec, continue to lack a VIC program and indicates areas of investigation that may rekindle the dialogue.

Describe How This Research Demonstrates Innovation: This research demonstrates innovation through the triangulation of multiple data sources, leading to a comprehensive investigation of a unique issue. New insights on the VIC dialogue were obtained through such triangulation.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research reveals the various factors that are needed to promote a policy window for furthering the VIC agenda in Canada.

49. User guide for big data in population and public health - Hui Luan

Co-authors: Daniel Fuller, Richard Buote, Kevin Stanley

Background: The volume and velocity of data is growing rapidly and big data analytics are being applied to all types of data in many fields. Population and public health researchers may be unfamiliar with the terminology and statistical methods used in big data.

Objectives: The purpose of this glossary is to define terms used in big data and big data analytics and to contextualize these terms

Methods: We reviewed the literature and developed a glossary for common terms related to big data and big data analysis. We also provide context for terms using examples relevant to population and public health researchers.

Results: We define the 5 V's of big data, volume, velocity, veracity, value, and variety. We also provide definitions related to big data analysis techniques, including machine learning, labelled, training, and test set data, supervised learning, unsupervised learning, data mining, artificial intelligence, and deep learning. We contextualize the glossary by providing examples where big data analysis methods have been applied to population and public health research problems and provide brief guidance on how to learn big data analysis methods.

Conclusions: Some researchers have begun applying big data analytics to data sources familiar to population and public health researchers. Learning big data analysis methods should be a priority for population health researchers.

Describe How This Research Demonstrates Innovation: This research is innovative in that it provides a glossary and guidance to help population and public health researchers understand and learn concepts related to the often nebulous term, big data.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: There is considerable discussion about how big data will be able to inform policy discussion. It is our opinion that practitioners must be aware of the general terminology surrounding big data and to have a better sense of what is possible with big data in the near term.

50. Ongoing invasive group A streptococcal infection outbreak in a homeless population in Montréal: interventions in collaboration with community partners - Jacynthe Caron

Co-authors: Noémie Savard, Anna Urbanek, Pierre A. Pilon

Background: In June 2017, Montréal public health (Direction régionale de santé publique – CIUSSS du Centre-Sud-de-l'Île-de-Montréal) detected an outbreak of invasive group A streptococcal (iGAS) infections in homeless people and individuals using community services for the homeless. There were 16 cases with the same *emm* type between March and November 2017, including 4 deaths.

Program Purpose: The goal of the intervention is to provide epidemiological surveillance, limit GAS transmission in this vulnerable population, and control the outbreak.

Target Group: The intervention targets homeless people and individuals using services for the homeless.

Activities: Upon outbreak detection, in-depth case investigations were conducted and sentinel surveillance of non-invasive infections (wound infections) was initiated. Interventions were implemented in collaboration with

clinical teams working with the homeless population and community organisations: 1) awareness raising among the target population and community workers; 2) rapid detection and management of wound infections; and 3) enhancement of hygiene and sanitation measures in homeless shelters and day centres.

Deliverables: Recommendations for the prevention of GAS transmission were developed for community organisations and posters were made to inform the target population. Presentations were given to clinical teams and community organisation workers and managers.

Describe how this public health practice/program demonstrates innovation: This is the first time that Montréal public health has to respond to an iGAS outbreak in this population. Intervention strategies had to be developed quickly and required interdisciplinary cooperation with new partners.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Questions remain regarding the best interventions to control the outbreak, which is still ongoing. However, the outbreak response enabled the public health team to establish links with community groups working with the homeless population. Those links will make it easier to develop public health prevention activities for this population at greater risk of other infectious diseases.

51. Government policy interventions to reduce human antimicrobial use: a systematic review - Susan Rogers Van Katwyk

Co-authors: Jeremy M. Grimshaw, Marc Mendelson, Miriam Nkangu, Monica Taljaard, Steven Hoffman

Background: As governments face domestic and international pressure to tackle antimicrobial resistance (AMR), policy approaches such as regulating where antimicrobials can be sold and restricting the use of last-resort antimicrobials have become key strategies to reduce antimicrobial use.

Objectives: To enable effective government action, an evidence-base is required. This study identifies, describes, and estimates the effectiveness of government policy interventions to reduce antimicrobial use.

Methods: Seven databases were searched from inception to March 2017: MEDLINE, CINAHL, EMBASE, PAIS Index, CENTRAL, Web of Science and PubMed excluding MEDLINE. Included studies clearly described the government policy, and used rigorous designs to quantitatively measure policy impact. Analysis was conducted in two parts: a *descriptive review* identified and described the types of policies employed by governments; while an *effectiveness review* explored the evidence of effectiveness among the high-quality studies.

Results: More than 60 quantitative evaluations were identified and included in the descriptive review. Common intervention strategies included communication campaigns, prescribing guidelines, and regulatory or legislative mechanisms to reduce antimicrobial use. Fewer than half of included studies were retained for the effectiveness review, due to poor reporting and study design. We are currently exploring the feasibility of conducting a meta-analysis.

Conclusions: In order for governments to adequately respond to global AMR better data on the effectiveness of policy interventions is needed; this includes better design and reporting of intervention evaluations.

Describe How This Research Demonstrates Innovation: Governments require a suite of effective policy options from which to select the most feasible option based on healthcare capacities and political considerations. This is the first study to attempt to provide policymakers with synthesized evidence on the effectiveness of policy responses to A

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Limited data on AMR interventions has meant that few interventions to date have been evidence-based. By developing evidence to inform future interventions, this synthesis will help ensure that the global public can have confidence in, and benefit from, high quality evidence-based action against AMR.

52. Augmentation de la résistance à l'azithromycine chez *Neisseria gonorrhoeae* au Québec - Brigitte Lefebvre

Co-auteurs : Annie-Claude Labbé, Irene Martin, Florence Doualla-Bell, Sylvie Venne, Claude Fortin, Annick Trudelle, Gilles Lambert, Karine Blouin, Jean Longtin

Contexte : Au Québec, comme dans plusieurs autres régions dans le monde, on assiste non seulement à une recrudescence de l'infection gonococcique, mais aussi à une augmentation de la résistance aux antibiotiques dans un contexte d'arsenal thérapeutique limité. Au Canada, la résistance à l'azithromycine est passée de 1 % en 2013 à 7 % en 2016.

Objectif : Surveillance de la résistance à l'azithromycine chez les souches de *N. gonorrhoeae* isolées au Québec.

Méthode : Le Laboratoire de santé publique du Québec détermine la sensibilité aux antibiotiques de toutes les souches de *N. gonorrhoeae* isolées au Québec. Les souches résistantes sont typées au Laboratoire national de microbiologie par NG-MAST.

Résultats : La résistance à l'azithromycine est en hausse au Québec : de 2 % entre 2010 et 2013, elle est passée à 6,7 % en 2014, 12,4 % en 2015 et 19,9 % en 2016. En 2016, les souches résistantes ont été retrouvées chez 12 % des femmes (22/183) et chez 21 % des hommes (229/1069). Parmi les souches résistantes, 95 % sont également résistantes à la ciprofloxacine, mais toutes sont sensibles aux céphalosporines de 3^{ème} génération (C3G). L'augmentation importante de la résistance à l'azithromycine est corrélée à l'émergence de certains clones; ST-10567 en 2014 (57 %) et ST-12302 en 2015-2016 (69 %).

Conclusion : L'augmentation de la résistance à l'azithromycine chez *N. gonorrhoeae* atteint des niveaux alarmants au Québec.

Décrire comment cette recherche innove : La résistance aux antibiotiques est détectée par une méthode de référence. Les analyses sont centralisées au LSPQ pour toutes les souches de la province. Il n'y a pas donc pas de variabilité inter-laboratoires ou inter-méthode à considérer.

Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs : Cette surveillance est pertinente et doit être maintenue puisque les C3G et l'azithromycine sont recommandées en association pour le traitement des infections gonococciques. Le programme permet de détecter l'émergence de résistance, d'orienter les guides thérapeutiques et les politiques de santé publique.

53. Dépistage prénatal des infections à *Chlamydia trachomatis* (CT) et *Neisseria gonorrhoeae* (NG): peut-on s'y fier pour cesser la prophylaxie oculaire aux nouveau-nés? - Annie-Claude Boulay

Co-auteurs : Annie-Claude Labbé, Sophia Aouinati, Janie Benoit, Marie-Claude Drouin, Romain Mandel

Contexte: Dans son document de principes, la Société canadienne de pédiatrie indique que la prophylaxie oculaire à l'érythromycine ne devrait pas être recommandée systématiquement. Parmi les moyens plus efficaces de prévenir la conjonctivite néonatale, on souligne le dépistage de CT/NG chez toutes les femmes enceintes, le traitement et le suivi de celles qui sont infectées.

Objectifs : Déterminer la proportion des parturientes chez qui un dépistage prénatal des infections à CT/NG est réalisé, la prévalence de ces infections et la proportion de tests de contrôle réalisés.

Méthode : La liste des femmes ayant accouché à l'HMR du 15/04/01 au 16/03/31 a été croisée avec la liste des prélèvements analysés pour CT/NG. En l'absence de test réalisé au laboratoire de l'HMR, les dossiers ont été révisés afin d'identifier les analyses effectuées dans un autre laboratoire.

Résultats : Les dossiers étaient disponibles chez 2 656/2 690 femmes. Un dépistage de CT/NG a été effectué chez 2 222 femmes (84%; IC95% 82-85): 42 ont eu une infection à CT (1.9%; IC95% 1.4-2.5) et 4 une infection à NG (0.2%; IC95% 0.05-0.5). Parmi les 44 femmes infectées par CT ou NG (2 co-infections), 41 (93%) ont eu un prélèvement pour test de contrôle.

Conclusions : Bien que la majorité des femmes enceintes aient été dépistées conformément aux recommandations, 16% (n=434) ne l'ont pas été.

Décrire comment cette recherche innove : À notre connaissance, il s'agit des seules données québécoises sur l'évaluation de l'adhésion aux recommandations de dépistage et de suivi des femmes enceintes pour les infections à CT/NG.

Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs : Si ces données peuvent être extrapolées à l'ensemble du Québec (85 000 naissances par année), l'absence de dépistage prénatal chez 16% des femmes correspondrait à 13 000 nouveau-nés chez qui, sans prophylaxie oculaire, un suivi étroit serait requis afin de diagnostiquer une éventuelle conjonctivite néonatale, source de cécité oculaire.

54. Understanding the barriers to treatment adherence for individuals with latent tuberculosis infection (LTBI): a systematic search and narrative synthesis of the literature - Beverley Essue

Co-authors: Rose (Yisi) Liu, Stephen Birch, Bruce Newbold

Objectives: We systematically reviewed the literature to address four policy-relevant research questions: What proportion of people who are recommended treatment (a) initiate and (b) complete (i.e., adhere to) treatment?; What factors explain non-adherence to treatment? And; what are the effective, including cost-effective, strategies to improve adherence to LTBI treatment?

Methods: A systematic search carried out in Pubmed and Embase. Articles were assessed for risk of bias. A narrative synthesis of the results was conducted.

Results: There were 54 studies included in this review. The proportion of people initiating treatment varied from 24% - 98% and the proportion of people completing treatment varied from 19% - 90%. The main barriers to adherence included the fear or experience of side effects, long duration of treatment, financial barriers, lack of transport to clinics (for patients) and insufficient resources for LTBI control. While interventions like peer counseling, incentives and cultural-specific case management have been used to improve adherence, the proportion of people who initiate and complete LTBI treatment still remain low.

Conclusions: To improve treatment and LTBI control and to fulfill the WHO goal of eliminating TB in low incidence countries, greater priority should be given to the use of treatment regimens with shorter durations and fewer adverse effects, supported by innovative patient education and incentive strategies.

Describe How This Research Demonstrates Innovation: To our knowledge, this is the first review that used a systematic approach to searching the literature and focused on a) treatment behavior, b) barriers of treatment adherence and c) strategies to improve adherence with LTBI treatment in low-burden, high-income countries.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Adherence to LTBI treatment in high-income countries with a low-TB incidence is suboptimal. Although strategies like incentives have been used and proved to be effective to improve adherence, long-term effects have not been investigated. To further improve LTBI control in countries with a low-TB incidence and fulfill the goal of eliminating TB in these settings, LTBI treatment should be given greater priority by governments. Regimens with shorter durations and fewer side effects should be prioritised and effective and innovative education strategies and incentives are also needed.

55. Community-Based Partnership for Tuberculosis Active Case Finding in Montréal - Jessika Huard

Co-authors: Noémie Savard, Jean-François Boivin, Anna Urbanek, Marie Munoz

Background: Since 2003, there has been an ongoing outbreak of pulmonary tuberculosis in the Montréal, Laval and Montérégie areas resulting in 38 cases caused by the same strain. Of these individuals, 33 have one or

several risk factors in common: alcoholism, drug use, frequentation of crack houses, prostitution, homelessness, criminal activity, incarceration, HIV and/or HCV infection.

Program Purpose: Using a mobile X-ray unit, the program aimed to identify active TB cases among people at high risk for whom screening for latent infection is not feasible.

Target Groups: The target population had many risk factors and had frequented crack houses where cases of active tuberculosis had been reported.

Activities: In June and September 2017, the Direction régionale de santé publique – CIUSSS Centre-Sud-de-l'Île-de-Montréal (DRSP) coordinated an active case finding program that involved taking chest X-rays in a mobile unit. The program included provision of health and social services in the community. The DRSP worked on planning and implementation in partnership with local community groups, clinical teams, and the INSPQ mobile radiology unit.

Deliverables: Sixty people participated in the program. All had at least one targeted risk factor and several had frequented the same crack houses as previously diagnosed active TB cases.

Describe how this public health practice/program demonstrates innovation: This project demonstrates that it is possible to offer health services in a way that is acceptable to vulnerable populations who are difficult to reach through conventional approaches. The program also contributed to establishing service corridors and developing collaboration and trust between DRSP de Montréal, community groups and target populations.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Partnership between the community groups concerned and various organizations such as INSPQ and the health network make it possible to plan and implement a successful active case finding program. The intervention will be repeated twice a year for two years, after which the results will be used to assess the program's efficacy in detecting active tuberculosis cases.

56. Investigating barriers to treatment adherence for latent tuberculosis: A multi-perspective qualitative study - Debbie Milinkovic

Co-authors: Stephen Birch, Fran Scott, Bruce Newbold, Jessica Hopkins, Muntasir Saffie, Beverley Essue

Background: The Public Health Agency of Canada has attributed the majority of active tuberculosis (TB) cases in Canada to the reactivation of latent tuberculosis infection (LTBI - inactive tuberculosis) post immigration. TB is costly to treat and has a high the mortality rate (11%); therefore, eliminating TB in low-incidence countries is recognised as an important global health priority by the World Health Organization. However, the elimination of TB in low incident countries hinges on the effective treatment and management of LTBI.

Objectives: To understand how patient-level, provider-level and system-level factors act as barriers to adherence to LTBI treatment among immigrant populations.

Methods: We conducted interviews with three categories of participants: health system advisors/planners (n=10), health service providers (n=13) and clients of LTBI health services (n=9). Interview data were recorded, transcribed verbatim and analysed using content analysis.

Results: The results were derived from five overarching themes: priority setting, LTBI management, service delivery, health literacy, health care access. The low priority status of LTBI is reflected in a fragmented health care system, the lack of a national LTBI strategy and a lack of data and information sharing. Misinformation about TST testing, BCG vaccinations and LTBI care more generally is associated with client-level horizontal inequity both in terms of health care quality and health care access. While some planners and providers at the grassroots level are attempting to prioritize LTBI care, there is no clear pathway for information sharing.

Conclusions: Without improved data collection and a national strategy for LTBI management, LTBI planner and providers will continue to struggle with LTBI treatment adherence issues.

Describe How This Research Demonstrates Innovation: The study distills the perspectives of planners, providers and clients with LTBI to identify LTBI treatment adherence barriers that reach beyond the typical socio-economic determinants.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study identifies gaps at the client, provider and system level that hinder LTBI treatment initiation and adherence together with policies to address those gaps.

57. Évaluation d'une activité de formation sur la tuberculose offerte au personnel de santé de centres de détention provinciaux - Nadine Sicard

Co-authors: Danielle Auger, Isabelle Rouleau

Contexte : Une éclosion de tuberculose (TB) est en cours dans la grande région de Montréal chez des usagers de drogues. Près du tiers des personnes touchées par l'éclosion avaient des antécédents d'incarcération. Les personnes incarcérées peuvent être plus difficiles à joindre, dépister ou traiter contre la TB.

But du programme : Sensibiliser le personnel du service de santé des centres de détention (CD) aux caractéristiques épidémiologiques de l'éclosion, les former sur l'application des recommandations de dépistage opportuniste des personnes à risque dans les CD concernés et les soutenir dans le dépistage et le traitement de la TB.

Groupes cibles : Infirmières, médecins et gestionnaires des services de santé de trois CD provinciaux.

Activités : Mobilisation des parties prenantes, développement et diffusion d'outils, formation sur place dans les CD et évaluation de la satisfaction des participants de la formation.

Produits livrables : L'évaluation a porté sur la satisfaction à l'égard du format, du contenu, de la durée, d'un aide-mémoire et de la période d'échanges de la formation et ce par l'entremise d'un questionnaire anonymisé. Certaines informations additionnelles ont pu être recueillies de manière qualitative. La satisfaction des intervenants était très élevée sur tous les aspects, mais un peu moins pour la durée.

Décrire comment cette pratique ou ce programme de santé publique innove : L'utilisation d'une stratégie de dépistage opportuniste en CD pour la recherche de contacts de TB associée aux consommateurs de drogues n'avait jamais été réalisée dans notre province.

Décrire comment cette pratique ou ce programme guide les changements dans la pratique, la recherche ou l'élaboration de politiques de santé publique futurs : Les CD sont des partenaires importants des autorités de santé publique dans la prévention et le contrôle de la TB. Le fait que nous ayons pu évaluer la satisfaction des intervenants des CD sur la formation fournit des nouvelles informations sur leurs besoins, leur pratique étant unique, et permettra de mieux s'arrimer dans le futur.

58. Formation des employés de parcs du Québec sur l'échantillonnage de tiques et la maladie de Lyme - Karl Forest-Bérard

Co-authors : Alejandra Irace-Cima, Karine Thivierge, Sandie Briand, Patrick Leighton, François Milord, Ariane Adam-Poupart

Contexte : La collecte des tiques avec la méthode de la flanelle est utilisée dans le cadre du programme de surveillance de la maladie de Lyme (ML) du ministère de la Santé et des Services sociaux du Québec (MSSS) depuis plusieurs années. Les ressources limitées restreignent son déploiement, incitant l'exploration d'alternatives.

Objectifs : Explorer une nouvelle approche de surveillance en développant et en validant une formation adressée aux employés de parcs pour (1) leur permettre de faire l'échantillonnage des tiques de façon autonome (2) les informer sur la ML.

Méthode : Une formation sur l'échantillonnage des tiques et la ML a été développée à partir du matériel disponible. Des employés de huit parcs ont reçu la formation à l'automne 2017 et ont ensuite réalisé le protocole de collecte de façon autonome. L'appréciation de la formation a été évaluée auprès des responsables de parcs par téléphone.

Résultats : Soixante-quatre travailleurs ont suivi la formation en Montérégie (quatre parcs), en Mauricie-Centre-du-Québec (deux parcs), en Estrie (un parc) et en Outaouais (un parc). Quatre parcs ont réussi à reproduire le protocole de collecte de façon autonome. Des tiques ont été collectées dans quatre parcs lors des collectes assistées ou autonomes; celles-ci seront analysées pour identifier l'espèce et la présence d'agents pathogènes. Les résultats préliminaires de l'évaluation de la formation suggèrent que tous les parcs ont apprécié la formation.

Conclusions : Le projet a mis en évidence un important intérêt des parcs pour cette démarche. Un effort additionnel est nécessaire pour une mise-en-œuvre optimale.

Décrire comment cette recherche innove : Cette recherche est novatrice car elle explore une nouvelle approche de surveillance élargissant le réseau de collecteurs de tiques et favorisant la sensibilisation des travailleurs.

Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs : Cette formation pourrait être déployée à grande échelle dans le futur pour bonifier le programme de surveillance de la ML au Québec et ailleurs au Canada.

59. Coughing at Attention! Adenovirus outbreak at the Canadian Armed Forces (CAF) recruit training centre - Barbara Strauss

Co-authors: Martin Tepper, Commander Kirsten Barnes, Diane Lu, Major François Gagnon

Background: Adenovirus infections are common but outbreaks are unusual in Canada. Outbreaks have occurred for decades among US military recruits; however, this has not been the case in Canada. Vaccines for adenovirus 4 and 7 were used extensively in US military recruits from 1971 to 1999 and then reintroduced in 2011. The CAF used these vaccines from 1984 to 1995. The vaccines are currently unlicensed in Canada.

Objectives: To investigate an unexpected outbreak of adenovirus that occurred in summer 2017 among recruits undergoing basic training at Saint-Jean Garrison in Quebec.

Methods: The investigation of this outbreak included: enhanced nasopharyngeal swabbing for adenovirus among symptomatics; serotyping of positive adenovirus swabs; and tracking of clinical entities including isolations and hospitalizations.

Results: Between 01 Jul and 31 Oct 17, there were: 98 cases of clinical pneumonia [75 among recruits; 54 with positive chest x-ray]; 18 hospitalizations [15 among recruits; hospital stay of 3.5 days (mean)]; 20/30 swabs positive for adenovirus (all type 4); a mean of 18 recruits in isolation in each week (range: 1-56); and at least 32 affected training platoons. No specific change in the training circumstance was found to account for this outbreak, e.g. increased crowding. Control measures included: emphasis on hand and respiratory hygiene; environmental decontamination; early reporting of symptoms; and isolation of clinical cases. By 31 Oct 17, the outbreak had subsided.

Conclusions: This is likely the largest outbreak of adenovirus respiratory infection reported in Canada in the last 50 years. As a result of this outbreak, a specific "Acute Respiratory Infection Surveillance Program" (ARISP) for recruits has been put in place. Given the large burden of disease among recruits (hospitalizations, isolations, interference with training), the CAF is considering the importation of adenovirus 4/7 vaccines for use should another outbreak occur.

Describe How This Research Demonstrates Innovation: Nothing specific

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or

Practice: This outbreak has prompted: the introduction of the ARISP; and possible importation of adenovirus 4/7 vaccines.

60. Measles immunization coverage in Saskatchewan – what barriers are there to achieving herd immunity threshold (92 – 95% coverage)? - Marcus Ilesanmi

Co-author: Cordell Neudorf

Background: Adequate immunization is protective against emerging diseases; however, after being absent for years, measles is recurring in Saskatchewan. Factors responsible for low coverage are unclear; policy and socio-environmental factors are suspected. The measles immunization coverage ranged from 74.9 to 75.9% between 2012 and 2014. This level of coverage may be too low to protect against measles outbreak. Measles is not endemic in Canada, which means there could be factors that make the province vulnerable to recurrent infections.

Objectives: The purpose of this study is to explore the enablers and the barriers to achievement of herd immunity threshold for measles immunization coverage in Saskatchewan.

Methods: Study took place province-wide in Saskatchewan, Canada using in-depth key informant semi-structured telephone interviews with program frontline vaccination staffs and healthcare administrators to uncover challenges to an improved uptake. Key informants were selected through an expert purposive sampling strategy composing of two experts from each health region, selected for their direct role in immunization administration, its provision and management. The study had 82% response rate. Analysis was done with NVIVO software version 11 with data undergoing a hybrid inductive and deductive thematic analysis using the strategy described by Fereday & Muir-Cochrane.

Results: From provider's perspective, barriers were identified at three levels – individual (competing demands, disease uncommon and vaccination adverse event fear), structural (accessibility, data-base disconnect) and organizational (immigration status, resource limitation and transient population issues).

Conclusions: Uncovering what led to good coverage in some areas may help to understand what to do differently to achieve better coverage in areas with lower coverage. However, continuous monitoring of coverage rates is essential to ensure higher uptake for better health outcomes.

How this research demonstrates innovation: This is the first province-wide study to uncover barriers to achieving herd immunity thresholds from a healthcare provider's perspective.

How this research informs change policy development and practice: Uncovering temporal factors may provide platform for improved collaboration of interdisciplinary teams for immunization delivery efficiency and coercive stakeholder engagement.

61. The effect of timing of oseltamivir chemoprophylaxis in controlling influenza A H3N2 and influenza B outbreaks in long term care facilities in Manitoba, Canada, 2014-2015 - Davinder Singh

Co-authors: Carla Loeppky, Depeng Jiang, Paul Van Caeseele

Objectives: This study examines the effect of the timing of administration of oseltamivir chemoprophylaxis for the control of influenza A H3N2 and influenza B outbreaks among residents in long term care (LTC) facilities in Manitoba, Canada during the 2014-2015 influenza season.

Methods: A retrospective cohort study was conducted of all LTC facility influenza A H3N2 outbreaks (n=94) and influenza B outbreaks (n=11) using a hierarchical logistic regression analysis.

Results: Delay of oseltamivir chemoprophylaxis was associated with increased odds of infection in both univariate ($t = 5.41$), and multivariate analyses ($t = 6.04$) with an adjusted odds ratio of 1.3 per day for influenza A H3N2. No meaningful statistical analyses regarding influenza B could be conducted.

Conclusions: From this study, we can conclude that the sooner chemoprophylaxis is initiated, the lower the odds of secondary infection with influenza in LTC facilities during outbreaks caused by influenza A H3N2 in Manitoba.

Describe how this research demonstrates innovation: This study is the largest examination of the use of oseltamivir for chemoprophylaxis for influenza A H3N2 in LTC facilities to date. It provides the strongest piece of evidence for the use of timely oseltamivir chemoprophylaxis in this setting during outbreaks of influenza A H3N2.

Describe how this research informs change to future public health research, policy development and/or practice: This study will help inform infection prevention and control policy in LTC facilities in North America and Europe as to the impact of the timing of chemoprophylaxis for outbreaks caused by this subtype of influenza.

62. Could the clinical impact of pneumococcal conjugate vaccines be predicted based on their serotype content? - Shehzad Iqbal

Co-authors: Bernard Hoet, Patricia Izurieta, Javier Nieto Guevara

Background/Context: The expected impact of pneumococcal conjugated vaccines (PCVs) on the invasive pneumococcal disease (IPD) incidence is often estimated as the proportion of disease caused by vaccine-serotypes (VT).

Objectives: We assessed whether the observed impact of different PCVs (PCV13, PHiD-CV, PCV7) on overall IPD in children <2 years could have been estimated based on the serotypes included in the evaluated PCVs' formulations.

Methods: Datasets with annual IPD incidences and case counts by serotype distributions available in children <2 years old for ≥ 1 year pre- and post-PCV introduction were identified by literature search or from surveillance reports. The clinical impact was calculated based on incidence rate ratios of overall IPD (post vs pre) compared to the proportion of IPD caused by the serotypes covered by different PCVs in the pre-PCV period.

Results: In total, 19 observations from 10 countries were analyzed: 1 country had observations for all 3 PCVs, 6 countries for PCV7 and PCV13, 1 for PCV7 and PHiD-CV, and 2 for PHiD-CV only. The association between predicted impact based on serotype coverage and observed impact on overall IPD across all 19 observations was modest ($R^2=0.49$). Using PCV serotype content as a predictor overestimated the impact of PCV for 16/19 observations. The number of datasets per individual PCV was low and precludes specific analysis for each PCV.

Conclusions: A strong association between PCVs' serotype content and their clinical impact could not be demonstrated. Other factors, such as serotype-specific effectiveness, effectiveness against vaccine-related serotypes and increase in non-vaccine serotypes may influence PCV impact on overall IPD.

Describe what knowledge or skill will participants gain from attending your presentation: From a pediatric vaccine program perspective, PCVs demonstrate an overall reduction in IPD irrespective of differences in formulations in terms of serotype content.

63. Looking beyond the number of serotypes: a modelling approach comparing current high valent pneumococcal conjugate vaccines on public health outcomes - Ashleigh McGirr

Co-authors: Patricia Izurieta, Jan Olbrecht, Benedetto Simone

Background/Context: The 13-valent pneumococcal conjugate vaccine (PCV) (PCV13/Prevnar 13/Pfizer) and the 10-valent PCV (PHiD-CV/Synflorix/GSK) prevent invasive pneumococcal disease (IPD), pneumonia, and acute

otitis media (AOM). Models comparing both vary widely, using different vaccine efficacy (VE) estimates from literature against serotypes (ST) 3, 19A, non-typeable *Haemophilus influenzae* (NTHi), and herd effect (HE).

Objectives: This study evaluates the impact of these input parameters on number of cases of disease, healthcare utilization, and deaths.

Methods: A published Markov cohort model comparing PCV13 and PHiD-CV was adapted to work with ranges of VE against ST3, ST19A, NTHi, and HE instead of one VE point estimate. Ranges included confidence intervals of available VE estimates from literature. Where possible, the model was populated with Canadian epidemiology and resource utilization data. Reduction in number of cases, healthcare utilization and deaths were compared for PCV13 and PHiD-CV for the 2016 Canadian birth cohort over a lifetime horizon.

Results: Varying VE against ST3, ST19A, and HE in the model projected no differences in number of deaths and one more IPD case using PHiD-CV versus PCV13 (507 and 506 respectively). Varying NTHi affected the model outcomes for AOM. PHiD-CV however prevented on average 8,597 more AOM cases than PCV13 (associated with 1,134 hospitalizations and 14,742 physician visits).

Conclusions: This study confirms no clear benefit for PCV13 in terms of VE from ST3, ST19A, and herd effect. PHiD-CV prevented more AOM cases than PCV13. Outputs are aligned with recent independent reviews, concluding that there is no evidence of superiority of one PCV over the other for IPD and pneumonia. This model takes into account VE for vaccine-types only. A more sensible approach should take VE for overall IPD to include impact on non-vaccine-types.

Describe what knowledge or skill will participants gain from attending your presentation: Participants will understand how mathematical models help to estimate the public health impact of vaccinating with PHiD-CV versus PCV13.

64. Development of the HZ/su zoster subunit vaccine and implications for zoster prevention - Robyn Widenmaier

Co-authors: Christopher Clarke, Romulo Colindres, Nicolas Lecrenier, Lidia Oostvogel

Background/Context: The non-live Herpes Zoster subunit vaccine (HZ/su, SHINGRIX) has been developed by GSK to overcome age-related decline in immunity and thereby help prevent HZ and its complications such as Postherpetic neuralgia (PHN). HZ/su elicits robust and durable immune responses and protection in older adults and can be given to immunosuppressed individuals. These properties are important in order to help prevent disease in populations most at risk for developing HZ.

Objectives: We review the principles underlying the development of HZ/su and describe the pivotal phase III results in older adults.

Methods: The HZ/su formulation combines a Varicella Zoster Virus (VZV) glycoprotein E (gE) antigen with adjuvant system AS01B. gE was selected as the antigen because it is highly expressed on the surface of VZV and is important for viral spread. Pre-clinical and clinical studies confirmed that HZ/su elicited robust humoral and cell-mediated immune responses that persisted above baseline levels for at least 9 years.

Results: HZ/su efficacy against HZ compared to placebo was 97.2% (95% CI, 93.7-99.0; $P < 0.001$) in adults ≥ 50 YOA and 91.3% (95% CI, 86.8-94.5; $P < 0.001$) in adults ≥ 70 YOA. Efficacy was consistent across age groups (50-59; 60-69 and ≥ 70 YOA) and persisted without significant waning for at least 4 years after vaccination. By preventing HZ, complications of HZ, including PHN are also prevented. Solicited injection site reactions and general symptoms were common in clinical trials. Most of these reactions were mild to moderate in intensity and transient (median duration of 3 days). Serious adverse events occurred at similar rates in both groups. There was high compliance (94.2%) with the 2-dose course in the clinical program.

Conclusions: These results suggest HZ/su may have a positive impact on HZ-morbidity in Canada and associated healthcare costs.

Describe what knowledge or skill will participants gain from attending your presentation: The audience will understand the rational design of HZ/su to overcome a key challenge in adult immunization and the available efficacy and safety data from the pivotal phase III studies.

65. Chronic conditions among Canadian adults: A snapshot of national surveillance data - Sharon Bartholomew

Co-authors: Catherine Pelletier, Jennette Toews, Siobhan O'Donnell, Cynthia Robitaille, Kristina Sabou

Objectives: This presentation aims to highlight recent estimates of and trends in the prevalence, incidence and all-cause mortality of common chronic diseases affecting Canadian adults.

Methods: The Canadian Chronic Disease Surveillance System (CCDSS) is a collaborative network of provincial/territorial surveillance systems supported by the Public Health Agency of Canada (PHAC). It uses linked health administrative databases to collect data on 20 chronic conditions. Individuals living with these conditions are identified using algorithms based on ICD codes. The CCDSS allows for the estimation of disease prevalence, incidence and all-cause mortality. Its coverage is nearly universal (97% of the Canadian population).

Results: Based on the most recent CCDSS data, among Canadian adults:

- 1 in 4 (20+) have diagnosed hypertension;
- 1 in 8 (20+) have diagnosed osteoarthritis;
- 1 in 9 (40+) have diagnosed osteoporosis;
- 1 in 10 (20+) have diagnosed asthma;
- 1 in 10 (35+) have diagnosed chronic obstructive pulmonary disease;
- 1 in 10 (20+) have diagnosed diabetes;
- 1 in 12 (20+) have diagnosed ischemic heart disease; and
- 1 in 14 seniors (65+) have diagnosed dementia, including Alzheimer's disease.

Incidence and all-cause mortality data for each of these conditions will also be presented. Data for each indicator will be disaggregated by age group, sex, and over time.

Conclusions: Through the CCDSS, PHAC generates accurate and timely public health information that can support more effective and equitable service planning, policy development and evaluation initiatives.

Describe How This Research Demonstrates Innovation: Using health administrative data for chronic disease surveillance complements other approaches, such as population-based surveys. The CCDSS makes it possible to track the epidemiological burden of chronic diseases in the Canadian population over time.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Surveillance data provide evidence underpinning public health policy and program development that can also be used to evaluate their impact on chronic disease prevention/control. It is also well-known that surveillance data generate hypotheses that can be tested through research.

66. The effects of ethnicity on incidence of prediabetes among immigrants living in low and high walkability in Southern Ontario - Ghazal Fazli

Co-authors: Rahim Moineddin, Arlene Bierman, Gillian Booth

Objectives: We aimed to investigate whether varying levels of neighbourhood modify the incidence of prediabetes among immigrant populations of different ethnic origins.

Methods: Population-based databases were used to identify individuals aged ≥ 20 with normoglycemia on Jan 1, 2002 and followed to Dec 31, 2013, for the development of prediabetes. A validated algorithm was used to derive ethnic origins using mother tongue and country of birth as proxies for ethnicity. Area level walkability scores were assigned to individuals using their postal code of residence at cohort entry. We previously found a

threshold effect between walkability and diabetes, therefore, we divided walkability into two categories: high based on the top quintile (Q5) and low based on the bottom 4 quintiles (Q1-Q4). Cox proportional hazards models were used to examine incidence of prediabetes across different ethnic groups, stratifying by high and low walkability, adjusting for covariates.

Results: Our cohort included 274,013 immigrants (mean age 40 years) from Sub-Saharan Africa/Caribbean (n=30,758), South Asia (n=56,002), Latin America (n=24,306), and Western Europe (n=17,277). Overall, the incidence of prediabetes remained elevated among all non-Europeans. However, these effects were more marked in neighbourhoods that were less walkable and reduced in more walkable neighbourhoods. For example, Sub-Saharan African/Caribbeans living in low walkability areas had a twofold higher incidence of prediabetes (HR: 1.93, 95%CI: 1.82-2.04, $p<0.001$) but only 1.2 times higher in high walkability areas (HR: 1.28, 95%CI: 1.16-1.41, $p<0.001$). Additionally, Latin Americans living in low walkability areas had a 1.5-fold higher incidence (HR: 1.51, 95%CI: 1.42-1.60, $p<0.001$), compared with Western Europeans (referent), but this association was not significant in high walkability areas (HR: 1.02, 95%CI: 0.92-1.17, $p=0.757$). These patterns persisted for adults aged 20-64, but not for those aged 65+.

Conclusions: Neighbourhood walkability may amplify the risk of prediabetes development among immigrant populations of different ethnicities.

Describe How This Research Demonstrates Innovation: This study contributes to evidence base on the influence of neighbourhood effects on incidence of prediabetes, a preventable and reversible condition that precedes diabetes.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: These findings will guide future policy and research directions related upstream determinants such as neighbourhood design as effective population health interventions for diabetes prevention.

67. Anthropometric Changes and Risk of Diabetes: Are There Differences between Men and Women? A Longitudinal Study of Alberta's Tomorrow Project Cohort - Ming Ye

Co-authors: Paula Robson, Dean Eurich, Jennifer Vena, Jian-Yi Xu, Jeffrey Johnson

Background: While anthropometric changes, such as changes in body mass index (BMI) and waist circumference (WC), have been positively associated with risk of diabetes, it is still unclear whether this association is different between men and women.

Objectives: The objective of this study is to characterize the sex-specific difference in the association between anthropometric changes and risk of diabetes in a cohort of adults in Canada.

Methods: From 2000-2008, Alberta's Tomorrow Project (ATP) enrolled participants aged 35-69 to a prospective cohort study. Changes in weight, BMI, WC and waist-hip-ratio (WHR) were calculated as the difference between baseline and follow-up measures. Diabetes cases were identified using the Canadian National Diabetes Surveillance System algorithm with administrative health data (2000-2015). Multivariable Cox regression was used to examine the association between anthropometric changes and incidence of diabetes.

Results: The average risk increase for diabetes associated with one standard deviation (S.D.) increase in anthropometrics was greater in men than in women [weight: 20% (14%-27%) in men vs. 13% (8%-19%) in women; BMI: 23% (15%-31%) vs. 14% (8%-19%), respectively; WC: 25% (18%-34%) vs. 18% (12%-24%), respectively; WHR: 17% (11%-22%) vs. 8% (5%-11%), respectively]. Compared to other anthropometrics, per S.D. increase in WC was associated with the largest increase in risk of diabetes in both men and women.

Conclusions: The association between anthropometric changes and risk of diabetes was generally stronger in men than in women. This sex-specific difference was more subtle for changes in obesity indicators BMI and WC than body shape indicator WHR.

Describe How This Research Demonstrates Innovation: This is the first population-based study in Canada characterizing the sex differences in the association between anthropometric changes and risk of diabetes.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study provides locally relevant evidence for population-based sex-specific intervention aiming to reduce incidence of diabetes through anthropometric reduction in general populations.

68. The impacts of multimorbidity and mental illness on emergency room admissions - Myles Gaulin

Co-authors: Marc Simard, Bernard Candas, Caroline Sirois

Background: Multimorbidity, the accumulation of multiple chronic illnesses, is associated with increased primary healthcare utilization, including emergency room admissions (ER). While multimorbidity and mental illness have each been associated independently with ER, their interaction has been studied little.

Objectives: Our study aims to quantify the modifying effect of mental illness on the association between multimorbidity and ER.

Methods: We conducted a retrospective cohort study using data from the Quebec Integrated Chronic Disease Surveillance System (QICDSS), an administrative database comprising public insurance claims and associated diagnoses for the entire population of Quebec, Canada. Physical and mental illnesses were identified using claims from April 2012 - March 2014. Multimorbidity was measured using Gagne's combined multimorbidity index; MI were classified as severe (SMI), non-severe (MI), and absent (A). ER admissions from 2014-2015 were then documented. We used logistic regression to quantify the relationship between multimorbidity, mental illness, and ER.

Results: Positive modifying effects were found for people aged 18-44 years with moderate multimorbidity. In this group, the ER ORs for a 4-5 point score on the multimorbidity index were A: 1.85 (1.63; 2.10), MI: 2.68 (2.20 ; 3.26), and SMI: 3.95 (2.35 ; 6.62). In people aged 55-64 effect modification by mental illness was less pronounced and ORs were A: 2.38 (2.29; 2.48), MI: 3.17 (2.93; 3.42), and SMI: 3.61 (3.08 ; 4.23).

Conclusions: MI appears to exert differential effects across age groups, suggesting differing illness profiles. Further research may clarify these differences.

Describe How This Research Demonstrates Innovation: This study is the first, to our knowledge, to specifically measure effect modification by mental illness on multimorbidity for the outcome of ER. The use of separate MI and SMI categories rather than a single category is also novel, and may allow greater precision than previous related studies.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study will aid understanding of factors driving ER use, and may indicate need for targeted interventions to reduce emergency room admissions in young people with physical-mental multimorbidity.

69. An environmental scan of small area analysis methods - Brenda Lee

Co-authors: Trevor van Ingen, Jeremy Herring, Lennon Li, Steven Johnson

Background: The concept of small area analysis is a term used to describe statistical methods or techniques to produce more accurate estimates when there is insufficient information or small sample size in the area of interest.

Program Purpose: To identify small area analysis (SAA) methods that can be applied to public health data.

Target Groups: Public Health Units interested in conducting SAA at the local level.

Activities: An environmental scan was undertaken to identify methods or techniques that could be used by PHUs. Information was gathered from three different inputs:

- a scan of published and grey literature
- an online PHU survey aimed at identifying SAA methods used at the local level
- semi-structured interviews with organizations or individuals with expertise in SAA

Deliverables: The poster describes the results of the environmental scan, including small area analysis methods that could be used by Public Health Units.

Describe how this public health practice/program demonstrates innovation: Producing neighbourhood level information is often challenging as survey data is often designed for analysis at the Provincial or health unit level. This information is essential to effectively assess, plan and evaluate health services. Applying small area methods offer health units a possible approach for generating neighbourhood level estimates.

Describe how this practice/program informs change to future public health practice, research and/or policy development: With the introduction of Patients First, there may be added demand for Public Health Units (PHUs) to develop health profiles based on additional small geographic areas such as LHIN sub-regions in order to inform and support LHINs with health system planning and decision-making. These changes, along with the modernization of the Ontario Public Health Standards have renewed PHU's focus on the use of population health data at the neighbourhood level to assess local health needs and enable data-driven health system planning and evaluation.

70. Factors influencing medication use among individuals with multiple sclerosis - Khrisha Alphonsus

Co-author: Carl D'Arcy

Background: Multiple sclerosis (MS) is a chronic autoimmune disease which affects the central nervous system causing neurological deterioration over time.

Objectives: The primary objective of this study was to examine the association between complimentary medicine use, counselling services, rehabilitation treatment and having co-morbid health conditions on disease modifying medication use among individuals with

Methods: Logistic regression was conducted using The Survey on Living with Neurological Conditions (SLNCC). The sample size consisted of a weighted total of 73,347 people with The outcome variable was whether or not the individual took MS medication. Risk factors were use of complementary medical treatments, rehabilitation therapy and counselling/psychotherapy services. Health conditions include mood disorder, anxiety disorder, depression, back problems, arthritis, heart disease and blood pressure. All analysis was carried out using STATA IC 14.

Results: The results of the multivariate analysis indicated that individuals who did not take complementary medicine were 5.4 times 95% CI (1.52-19.34) more likely to take MS medication as opposed to those who did take complementary medicine. Individuals who had undergone rehabilitation therapy were 3.94 times 95% CI (1.10-14.20) more likely to take MS medication as opposed to those who did not participate in rehabilitation therapy. Individuals with mood disorder were 6.4 times 95% CI (1.47-28.72) more likely to take MS medication as opposed to those who did not have a mood disorder.

Conclusions: In conclusion use of complementary medicine is associated with a lower odds of MS medication use, while those who underwent rehabilitation therapy and who had a mood disorder were more likely to take MS medication.

Describe How This Research Demonstrates Innovation: There have been few studies that have examined the association between various treatment options as risk factors for MS medication use. This study shows the negative effects that complimentary medicine use had on MS medication uptake, in contrast participation in rehabilitation therapy had a positive impact on MS medication uptake.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Efforts should be taken by health care practitioners to inform patients about the benefits of medication adherence in preventing relapses from occurring.

71. Associations between provider and hospital volumes and postoperative mortality following total hip arthroplasty in New Brunswick - Philip Leonard

Co-authors: Dan Crouse, Jonathan Boudreau, James T. McDonald

Background: Total hip arthroplasty (THA) is one of the most common operations in orthopaedic practice. Several international studies have reported negative associations between hospital and/or provider volume and risk of postoperative mortality following THA. The only Canadian studies to report on this were based in Ontario, and found no association.

Objectives: We sought to describe associations between postoperative deaths following THA and provider caseload volume, adjusted also for hospital volume, in New Brunswick (NB).

Methods: Our analyses are based on hospital discharge abstract data linked to vital statistics and to patient registry data. We considered all first known admissions for THA in NB between January 1, 2007 and December 31, 2013. Volume was defined as total THAs performed over the preceding two years. We ran logistic regression models to identify odds of dying within 30 and 90 days according to provider caseload volume adjusted for selected personal and contextual characteristics.

Results: Approximately 7,095 patients were admitted for THA over the seven-year period, and 170 died within 30 days. We found no associations with provider volume and postoperative mortality in any of our models. Adjustment for contextual characteristics or hospital volume had no effects on this association.

Conclusions: Our results suggest that patients admitted for hip replacements in NB can expect to have similar odds of mortality whether they are admitted to a provider with relatively high or low THA volumes, and whether they are admitted to one of the province's larger or smaller hospitals.

Describe How This Research Demonstrates Innovation: This is the first Canadian study outside of Ontario to examine this association, due at least in part to restrictions on access elsewhere to patient records and administrative health data for research purposes.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: These findings inform discussions on the centralization of surgical services away from smaller, lower volume hospitals towards larger, higher volume facilities.

72. The Canadian Primary Care Sentinel Surveillance Network Data Presentation Tool (CPCSSN-DPT) for Primary Care and Public Health Practice - John A. Queenan

Co-authors: Neil Drummond, Matt Taylor, Michelle Griever, Donna Manca, Marie-Therese Lussier, Claude Richard, David Barber, Debra Butt, Richard Birtwhistle

Background: The CPCSSN-DPT provides users with access to cleaned, processed, disease classified and structured EMR data from primary Care (PC) that can be used for: surveillance, research, decision and policy, quality improvement and panel management. Potential users include Primary Care Physicians and Regional and Provincial Departments of Public Health, which may access PC data relating to populations at risk in their geographic catchment areas. The CPCSSN-DPT is available in French and English.

Objectives: Improve the functionality and data reporting capacity of the CPCSSN-DPT; and Implement the CPCSSN-DPT in Primary Care and Public Health.

Methods: *Design:* One-group implementation and evaluation study. *Setting:* Family Practice Clinics and Public Health Departments. *Participants:* A sample of self identified “DPT superusers” who are working either in CPCSSN sentinel clinics, Public Health Departments, in Alberta, Ontario, Quebec and the North West Territories. *Intervention:* A customized web-based CPCSSN-DPT.

Results: We have developed and improved a secure, web-based version of the DPT in over 40 sites. We installed the following new features; improved time-trend graphing, a deprivation index calculation, geographic information system mapping, improvements to the existing chronic disease case finder tool and implemented appropriate risk calculator tools.

Conclusions: The CPCSSN-DPT is proving to be capable of easily generating reports based on primary care EMR data. The information can be presented at appropriate levels of aggregation. We expect that this project will facilitate chronic disease management and disease prevention by practitioners in their practice population at both the group and individual patient levels.

Describe How This Research Demonstrates Innovation: The CPCSSN-DPT is a technological innovation, which forms the basis of this project. It provides users with easy access to CPCSSN EMR data after it has undergone processing and cleaning.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: We anticipate that departments of Public Health will use CPCSSN as an additional source of quality PC data for identifying, prioritizing and executing early and targeted interventions in response to vulnerabilities and needs in their local communities.

73. Development and validation of a scale to measure compensatory health behaviors - Lisa Kakinami

Co-authors: Barbel Knäuper, Gentiana Sadikaj, Sylvia Santosa, Carsten Wrosch

Background: Compensatory health behaviours (Cbeh) might help explain the positive correlation between compensatory health beliefs (believing that a bad behaviour’s effect can be counterbalanced with a good behaviour) and outcomes such as body weight.

Objectives: Develop (Phase 1) and validate (Phase 2) a scale to measure Cbeh.

Methods:

Phase 1: Items were generated from a convenience sample (n=158) of Model my Diet mobile application users. An initial 25-item pool was selected based on feedback from eight experts in the field. Phase 2: The final scale was derived based on factor analysis and item information curves from a large sample of adults (n=448). Psychometric properties were calculated using standardized Cronbach’s alphas. The contribution of the final scale on predicting BMI (based on self-reported height and weight) independently from other well-validated eating behaviour measures was assessed (additionally adjusting for age, sex, and race). Analyses were conducted for the full sample, and stratified by weight status and weight intentions.

Results: In the convenience sample (Mean age: 31, SD: 14.3 years; 78% female; 62% normal-weight, 23% overweight, and 15% with obesity), Cbeh comprised one of four subscales: (1) limiting high-fat/calorie/carbohydrates (n=3 items), (2) using alternative lower-calorie foods (n=3 items), (3) eating more (n=2 items), or (4) fasting (n=2 items), with good Cronbach’s alphas ($\alpha=0.85, 0.87, 0.74$ and 0.67 , respectively). In adjusted linear regression models, alternative lower-calorie foods was associated with lower BMI ($\beta = -0.17, p < .05$) in the full sample, and among those with a weight-loss/maintenance intention. Limiting high-fat/calorie/carbohydrates was associated with greater BMI ($\beta = 0.21, p < .05$) among normal-weight participants; fasting was associated with greater BMI ($\beta = 0.17, p < .05$) among participants who were overweight or obese.

Conclusions: Use of Cbeh is differentially associated with BMI based on weight intentions and weight status. The four subscales rather than the full scale should be used.

Describe How This Research Demonstrates Innovation: First study to develop and validate a measure to assess Cbeh.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Not all CBeh are counterproductive to weight regulation.

74. *Aedes aegypti* and *Aedes albopictus* in Windsor, Ontario: harbingers of climate change in Canada? - Mark P. Nelder

Co-authors: Curtis Russell, Doug Sider, Wajid Ahmed, Philip Wong, Mike Tudor, L. Robbin Lindsay, Alessio Gasparotto, Fiona Hunter, Bryan Giordano

Background: In fall 2016, the exotic mosquitoes *Aedes aegypti* and *Aedes albopictus* (breeding population) were detected for the first time in Canada, from a single site in Windsor, Ontario. In other regions of the world, these mosquitoes are serious pests and responsible for the transmission of chikungunya, dengue, yellow fever and Zika viruses.

Objectives: In May 2017, Public Health Ontario, with the Windsor-Essex County Health Unit (WECHU), Brock University, the Public Health Agency of Canada, implemented an enhanced surveillance program for exotic *Aedes* mosquitoes in Windsor.

Methods: The enhanced surveillance program employed *Aedes*-specific collection methods including the use of: Biogents-Sentinel (BGS) II traps for capturing adult *Aedes* mosquitoes, and ovitraps for collecting *Aedes* eggs. Starting in May and continuing through October 2017, weekly mosquito collections were made using 12 BGS traps placed at fixed locations in WECHU (with 10 ovitraps per BGS trap site). We collected mosquito larvae and pupae from all available habitats near *Aedes*-positive trap locations. In addition, underground structures were surveyed for adult mosquitoes during the winter months.

Results: In summer and fall 2017, *Ae. aegypti* and *Ae. albopictus* (female and male adults, larvae, pupae) were found again at the index site and at additional sites in the health unit. In addition, we describe habitats where these exotic mosquitoes were discovered and co-occurring mosquito species. We discuss potential sources for these exotic mosquito populations and possible modes of introduction.

Conclusions: *Aedes aegypti* and *Ae. albopictus* are present in Windsor, Ontario; however, continued surveillance is required to determine if they are established or annually introduced.

Describe How This Research Demonstrates Innovation: Surveillance for exotic *Aedes* mosquitoes is vital for the detection of other invasive vectors into Ontario, and Canada, and allows public health officials to assess the risks of mosquito-borne diseases and the development of appropriate public health actions.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Our research provides a standard for conducting surveillance for exotic *Aedes* mosquitoes in Canada, allowing for program implementation and possible refinement in other at-risk regions, especially regions near the predicted ranges of these species.

75. Integrated and Molecular approaches dedicated to *Salmonella* Heidelberg Surveillance in Quebec - Valentine Usongo

Co-authors: Chrystal Berry, Khadidja Yousfi, Michael Mulvey, Florence Douala-Bell, Eric Fournier, Céline Nadon, Lawrence Goodridge, Sadjia Bekal

Context: *Salmonella* Heidelberg is among the top 3 serovars isolated from humans infected with *Salmonella* in Canada. Identifying epidemiologically linked cases is essential for risk assessment and outbreak investigations. Until recently, PulseNet Canada in collaboration with provincial laboratories used traditional methods such as phage typing (PT) and pulse field gel electrophoresis (PFGE) during outbreak investigations. With the advent of

whole genome sequencing (WGS) technology, there has been a shift in approach, with the adoption of WGS-based methods as the primary typing tools moving forward.

Objectives: The objective of this research was to demonstrate how an integrative approach between stakeholders led to the identification of the source of *S. Heidelberg* outbreak that occurred in 2012 using the core genome single variant method (cgSNV).

Method: *Salmonella* Heidelberg clinical isolates (n=113) were recovered at the Laboratoire du Santé Publique du Québec (LSPQ). Food isolates (n=51) were provided by the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ). PFGE/PT was performed at the LSPQ. The Miseq technology was used for WGS. CgSNV analysis was performed at the LSPQ using the SNVPhyl pipeline of the National Microbiology Laboratory, Winnipeg, MB. Analysis of the cgSNV results was done in conjunction with the epi-data provided by epidemiologists at the Ministère de la Santé et des Services sociaux.

Results: CgSNV typing was highly discriminatory since it separated outbreak from nonoutbreak isolates. CgSNV also matched outbreak isolates to the contaminating food source.

Conclusions: The identification of the outbreak source underscores the importance of using a multi-disciplinary and multi-jurisdictional approach.

Describe How This Research Demonstrates Innovation: This research is doubly innovative: not only does it use new technology to resolve outbreaks and to identify the source of a pathogen with very low genetic diversity but it's also collaborative.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This holistic approach offers a new paradigm of surveillance based on the farm-to-fork approach and the One Health concept.

76. The spatial evolution of chlamydia: Historical trends and predictive patterns - Liam Rémillard

Co-authors: Paul Belanger, William Pickett, Anna Majury, Kieran Moore

Background: In recent years, Ontario has witnessed a dramatic rise in the incidence chlamydia; however, the causative factors contributing to this increase are not fully understood. At present, there is a need for epidemiologists to adapt current surveillance methods to better understand what may be driving the incidence rates.

Objectives: The objective of the present study was to identify historical patterns in spatio-temporal patterning to predict regions where chlamydia may become increasingly clustered in the future.

Methods: Using the 2011 Census boundaries, a unique geography combining both census tracts (CT) and census subdivisions (CSD) was developed. Ontario chlamydia cases diagnosed between 2005-2016 were geocoded from identified case data, and standardized rates were calculated for each Ontario CSD and CT. Following rate standardization, a metric was developed which equally weighted historical change in chlamydia incidence with the current standardized rates for each geographic unit. To assess the degree of spatial patterning, local indicators of spatial association were also calculated for each geographic unit in 2016.

Results: Findings suggest that chlamydia is not spatially random with low positive autocorrelation in Ontario. Results also identify significant spatio-temporal trends in both the breadth and magnitude of STI clusters.

Conclusions: Although chlamydia is becoming increasingly diffuse throughout Ontario, this research identifies the presence of priority regions experiencing a significant increase in chlamydia incidence in recent years, and also experiencing relatively high standardized rates in 2016.

Describe How This Research Demonstrates Innovation: As opposed to the traditional practice of exploring a time series of choropleth maps to visualize trends, this research offers a unique method for public health

practitioners to take into consideration current incidence rates in combination with historical disease trends at a local level.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice:

Of importance to public health practitioners, this research differentiates between historical and emerging spatial clusters of chlamydia in order to aide in the facilitation of future geographically-targeted interventions.

77. Does context matter? Exploring the community-level risk factors that influence chlamydia incidence - Liam Rémillard

Co-authors: Paul Belanger, William Pickett, Anna Majury, Kieran Moore

Background: Although there is a considerable amount of research that has explored individual-level STI (sexually transmitted infection) risk factors, there is a dearth of research exploring the contextual effect of community-level risk factors. In the absence of this information, public health practitioners may continue to encounter difficulty when developing targeted initiatives to mitigate the ever-increasing incidence of STIs.

Objectives: The objective of the present study was to develop a geographically weighted regression model including contextual risk factors to determine if the structure of STI incidence is spatially uniform or if the risk factors of STIs vary over space in their strength, agency, and efficiency.

Methods: Using the 2011 Census boundaries, Ontario STI cases of chlamydia diagnosed between 2005-2016 were geocoded from identified case data, and standardized rates were calculated for each Ontario census subdivision (CSD) and census tract (CT). In addition, four group-level exposures of interest including deprivation, income inequality, poverty, and accessibility to health services were calculated from census data for each CSD and CT. A geographically weighted regression was developed in R v.3.4 statistical computing program with each of the four group-level exposures as independent variables.

Results: Results of this research suggest that the strength of association between community-level exposures and STI incidence is not equally salient throughout Ontario, but instead, the association is spatially contextual and dependent on location. In addition, this research identifies the presence of regions where locally-weighted regression coefficients for contextual variables move away from their global values.

Conclusions: The strength of association for various socio-demographic group-level chlamydia risk factors is largely spatially dependant.

Describe How This Research Demonstrates Innovation: In contrast to most STI research, the present study offers a solely contextual exploration of group-level modifiable risk factors for chlamydia incidence.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice:

As each of the four exposures were not equally salient in Ontario, this research allows public health practitioners to target the community-level exposures that have the greatest influence on chlamydia incidence in their jurisdiction.

78. Neighbourhood environments and drug harms among people who inject drugs in Montreal - Nanor Minoyan

Co-authors: Adelina Artenie, Julie Bruneau

Objectives: To examine the role of neighbourhood risk environments in shaping Hepatitis C Virus (HCV) transmission among PWID.

Methods: We analysed data from a prospective longitudinal cohort study of PWID in Montreal. Every 3 months, participants provide socio-demographic and behavioural data, and dwelling postal codes. HCV RNA testing of

blood samples is performed. Participants were categorized according to quintiles of neighbourhood deprivation, defined by the Pampalon deprivation index, an aggregate census measure. Descriptive analyses compared participants across categories of deprivation. Cox proportional hazards models were used to estimate the association between deprivation and time-to-HCV infection. In the next phase, we will account for time-varying selection bias using inverse probability of treatment weighting, and consider injecting locations in addition to dwelling locations.

Results: 277 participants contributed 449 person-years of follow-up. 49 cases of incident HCV infection were observed among participants RNA-negative at baseline (IR: 11.0/100 p-y). 543 postal codes were recorded throughout follow-up. 84.8% of consecutive follow-up visits represented moves into or out of deprived neighborhoods. Participants living in deprived areas (quintiles 4-5; n=114, 47.5%) were less likely to report injecting heroin (32% vs 44.4%), sharing syringes (16.0% vs 23.0%), unstable housing (13.3% vs 23.0%) and employment (18% vs 31%) compared to those living in non-deprived areas (quintiles 1-2-3). No association was found between neighborhood deprivation and rate of HCV infection (aHR: 1.1, 95% CI: 0.6-1.9).

Conclusions: Neighborhood deprivation was not associated with HCV transmission in analyses considering current neighbourhoods. Greater consideration of mobility across deprivation quintiles in subsequent analyses may reveal a dynamic relationship between risk environments and HCV, informing harm reduction strategies.

Describe how this research demonstrates innovation / Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Few studies among PWID consider contextual determinants within a longitudinal framework. Findings from this project may inform harm reduction strategies by considering the upstream determinants shaping drug use among this vulnerable population.

79. Interventions de prévention des ITSS guidées par une cartographie (géolocalisation) des lieux de vulnérabilité aux ITSS - Christelle Aïcha Kom Mogto

Co-auteurs : Maxime Morin-Lavoie, Julie Lévesque, Marie Hortas, Stéfan Reyburn, Catherine Besner

Contexte: Il existe en Outaouais des services d'approche qui visent les personnes vulnérables aux ITSS; cependant certains milieux ne sont plus adéquats pour ces interventions de proximité, tandis que de nombreux milieux n'ont jamais été couverts par ces services.

But du programme: Le programme déployé à l'été 2016 visait à améliorer la connaissance des caractéristiques des groupes vulnérables aux ITSS et surtout des lieux qu'ils fréquentent, afin de leur offrir dans leurs milieux des services préventifs adaptés à leurs besoins.

Groupes cibles : Des lieux désignés comme «vulnérables aux ITSS» étaient ciblés, plutôt que des groupes de personnes : lieux de rencontres de partenaires sexuels, d'activités sexuelles à risque ou de consommation de drogues.

Activités : En premier lieu, les lieux de vulnérabilité aux ITSS ont été identifiés en interrogeant des informateurs-clés. Par la suite, certains milieux ont été invités à mettre en place de nouveaux services préventifs, permettant d'établir dans certains cas de nouveaux partenariats. Cette démarche se poursuit.

Produits livrables : Une carte électronique identifiant plus d'une centaine de lieux (bars, parcs, motels, terrains vagues, etc.) a été élaborée. Des services d'approche ont été offerts dans certains milieux prioritaires et volontaires : ateliers de sensibilisation, dépistage d'ITSS, installation de machines distributrices de condoms à coût réduit (0,50\$).

Décrire comment cette pratique ou ce programme de santé publique innove : Les services d'approche sont souvent dispensés dans des milieux sur une base «historique». Une cartographie des lieux où des groupes vulnérables aux ITSS peuvent être desservis est un outil novateur et utile pour mieux orienter les interventions et s'assurer qu'elles demeurent pertinentes.

Décrire comment cette pratique ou ce programme guide les changements dans la pratique, la recherche ou l'élaboration de politiques de santé publique futurs : La cartographie et sa mise à jour régulière permettent d'atteindre les personnes ciblées aux bons endroits. Un plus grand nombre de personnes vulnérables peut ainsi être desservi, en favorisant une utilisation optimale des ressources et le renforcement des collaborations avec les milieux.

80. Analysis of HIV/AIDS health promotion coverage of disabled people in Canadian Newspapers and academic literature - Syeda Farwa Naqvi

Co-author: Gregor Wolbring

Background: Eradicating HIV/AIDS is part of the 2030 sustainability goals (1). Disabled people are at equal or increased risk than other groups for HIV/AIDS (2, 3). HIV/AIDS is one focus of health promotion (4, 5). Health promotion is to recognize the impact that wider social and environmental factors have on an individual's well-being. Policies can be seen to be informed by evidence generated through research (7-9). Media including newspapers also influence the shaping of policy (10-14) through the evidence provided in their reporting.

Objectives: To provide evidence on the HIV/AIDS health promotion coverage of disabled people within Canadian Newspapers and academic articles.

Methods: We searched three academic databases (Scopus, Ebsco All with its 70 databases and Pubmed) and a database covering Canadian newspapers (Canadian newsstream) for the terms "HIV", and "Health promotion" in conjunction with any of these terms: "disabled people", "people with disabilities", "disabled", "with disability*", "impairment", "impaired", "intellectual disability*", "visual impairment", "physical disability*", "deaf". Descriptive quantitative and thematic qualitative data was generated.

Results: N=621 newspaper and n=7896 academic articles included the terms "HIV" and "health promotion". After elimination of duplicates and non-relevant articles, n=12 academic and n=1 newspaper article covered disabled people. Our presentation will cover themes found in the n=13 articles; e.g. all articles thematized the exclusion of disabled people in HIV/AIDS health promotion.

Conclusions: Our findings suggest a culture of health promotion coverage that excludes disabled people, othering disabled people and suggest an area for health advocacy and needed social change and research.

Describe How This Research Demonstrates Innovation: With our findings, we realized that there is seldom any literature advocating for the disabled people in health promotion literature. By excluding this population, we are doing little to help eradicate the disease in Canadian population by not targeting a cohort that is equally as susceptible to the contraction of HIV.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: By increasing health literacy through health promotion for the disabled population who are equally vulnerable to contracting HIV.

81. Comparison of Depression in Sexual and Gender Minority Youth in Canada and the United States - Sandra D'Souza

Co-authors: Shelley Craig, Lauren McInroy

Objectives: Sexual and gender minority youth (SGMY) often report poor mental health outcomes due to individual and structural level risks. This study examined the relationship between depression among SGMY from Canada and the US, examining the influence of adverse childhood experiences (ACEs) and minority stressors.

Methods: An online cross-sectional survey was conducted with SGMY residing in the US (n=4300) and Canada (n=1892), ages 14-29. Recruitment: via venue-based and purposive online sampling to agencies and on social media. Measures: (1) ACEs, (2) Internalized Homo/Transphobia scale, (3) Interpersonal and Environmental

LGBTQ Microaggression Subscales, and (4) DSM–5 Self-Rated Level 1 Cross-Cutting Symptom Measure's depression subscales. Linear regression was used to find the association between country (US or Canada) and SGMY depression, controlling for geographic setting, ACEs, internalized homo/transphobia, and minority stressors.

Results: Participants (\bar{x} age = 18.19, SD = 3.61) represented a range of non-mutually exclusive identities. Sexuality: pansexual (30.0%), bisexual (26.3%), queer (21.1%), lesbian (15.6%), gay (15.6%), asexual (11.9%), questioning (6.3%), and other (7.0%). Gender Identity: female (41.2%), non-binary (24.1%), genderqueer (19.6%), male (16.9%), transgender (14.8%), and other (6.3%). SGMY reported high rates of depression in Canada (n=1371, 72%) and the US (n=3245, 75%). In particular, country (Canada) (β =1.155, $t(2942) = 2.890$, $p<.001$), ACEs (β =.985, $t(2942)=11.853$, $p<.001$), internalized homophobia (β =.469, $t(3277)=7.978$, $p<.001$), interpersonal microaggressions (β =.217, $t(2942)=6.117$, $p<.001$) and environmental microaggressions (β =.397, $t(2942)=7.567$, $p<.001$) were significantly associated with depression.

Conclusions: Canadian participants reported only slightly lower depression outcomes compared to their US counterparts, despite the steady gains in rights and protections for LGBTQ+ Canadians.

Describe How This Research Demonstrates Innovation: This study expands knowledge about SGMY mental health risk in Canada and the US by using ACEs with this population.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The high rates of depression, ACEs, and interpersonal and environmental minority stressors experienced by SGMY underscore the need for more accessible systems of care that attend to prevention and intervention needs of this high-risk population.

82. Get Checked Online- Expanding an Innovative Online STBBI Clinic on Vancouver Island for suburban and rural populations - Dee Hoyano

Co-author: Elizabeth Colangelo

Background: Get Checked Online (GCO) was launched by the British Columbia Centre for Disease Control (BCCDC) in 2014 to provide an online STBBI testing service. GCO provides online education, risk assessment and a testing service, bypassing the need to see a physician/nurse in a physical clinic. Because it is online, it addresses multiple barriers to healthcare access, including stigma around STBBIs, desire for privacy, lack of primary care providers, and client time and financial limitations.

The service originally targeted MSM (men who have sex with men) in metro Vancouver as clients, but was expanded to Vancouver Island in 2016 to reach a larger population.

Program Purpose: To increase STBBI education and testing including HIV testing in target populations in South Vancouver Island

Target Groups: Young adult and youth populations in smaller urban centres and surrounding rural areas; users of mobile and online dating/hookup services

Activities: Partnership development with local lab services, primary care providers, community agencies; and Targeted marketing campaigns online and in the community (e.g. bus ads, posters, community events) to reach various audiences (e.g. young adult, students, MSM and other LGBTQ people)

Deliverables: GCO testing numbers, testing outcomes, client demographics; and Measurement of marketing strategies using promo code feedback

Describe how this public health practice/program demonstrates innovation: This is a novel user-friendly online service for STBBI testing, which has been successful in reaching populations that rarely/infrequently test and establish regular testing behavior for some at higher risk.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Through this expansion, GCO is shown to be scalable to smaller urban, suburban and rural settings: Improves access to STI testing and education using acceptable and convenient technology in both urban and rural settings; and Demonstrates the value of developing programs that meet client needs and preferences, particularly for service users vulnerable to stigma

83. Nunatsiavut Sexual Health & Wellness Program - Sylvia Doody

Background: In Nunatsiavut, sexual health and wellness education was not standardized. Education was delivered by various professionals with varying levels of sexual health promotion training and comfort delivering program content. Sexual health and wellness materials were often outdated, lacked cultural sensitivity and consistent messaging.

Program Purpose: To develop a stand-alone sexual health and wellness program that is culturally responsive, for both male and female youth and young adults, and is comprehensive and sustainable.

Target Groups: The target group are youth aged 12 to 30 years of age.

Activities: The development of the Nunatsiavut sexual health & wellness program included an environmental scan of current sexual health and wellness programming, youth engagement sessions along with a survey, and resource development based on feedback from the youth engagement sessions and surveys. There was also a poster and slogan development contest to brand the program. Program materials and promotional items bearing the new logo were developed to accompany the new resource to be used during the roll out. An advisory group made up of collaborative partners lead this process.

Deliverables: Nunatsiavut youth will have a sexual health and wellness resource that can be used by various professionals which contains topics informed by youth. The resource contains topics that youth identified as critical to their sexual health and wellness learning needs.

Describe how this public health practice/program demonstrates innovation: This public health program demonstrates innovation because youth were integral in informing the development of a sexual health and wellness program from program inception to completion. Youth were engaged and chose the selected topics, validated program content, developed the program logo and slogan and informed the selection of promotional materials.

Describe how this practice/program informs change to future public health practice, research and/or policy development: To be successful, future program development should include the intended audience in programming development from inception to completion.

84. The New Beginnings: Cote First Nations community-led outreach (on and off reserve) services addressing STBBIs prevention and mental health addictions in rural Saskatchewan - Deborah Kupchanko

Co-authors: Ibrahim Khan, Wanda Cote

Background: A southern rural community with unprecedented poverty and injection drug use (100% clients have addictions or recovering from addictions), newly diagnosed HIV and hepatitis C (HCV) cases with a population size 3000 people and where patients report high levels of stigma and discrimination in accessing care.

Program Purpose: The New Beginnings program fills inter-jurisdictional gaps in the health services to Cote , Keeseekoose , Key First Nations, and the town of Kamsack (non-First Nations) in Saskatchewan

Target Groups: The target groups are the residents of the neighbouring communities, people with high risk life style (intravenous drug users, HIV, HCV positive) youth, prenatal, and homeless .

Activities: The program serves 150 to 200 people per day from Monday to Friday. It provides onsite outreach support for mental and addictions, transportation, family and employment support (teachings on beadings and moccasin making), workshops in traditional sharing circles/tipi teachings/ spiritual healing, land based cultural activities, life skills, food kitchen, HIV/HCV clinics, needle exchange program, counselling, education and awareness with elder support, prenatal and parent skills.

Deliverables: Serving local people with addictions. The program offers clinics, workshops, referrals to health services, training/education, transportation to medical appointments and testing/treatment services. In addition, staff coordination and linkages with culturally safe services. Attendees of the program are offered with food and other incentives.

Describe how this public health practice/program demonstrates innovation: This model of care is led by the Cote First Nations, (off reserve)in the town of Kamsack, funded jointly by PHAC and FNHB/ Health Canada, supported by the town of Kamsack, Sunrise Health Region, local community leadership and residents. The services are unique and high quality and effective in meeting the needs of the locals.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Similar services are needed in rural areas where access to care is limited, stigma and addiction issues impacting care, and the lives of First Nations people.

85. Harm Reduction in Saskatchewan First Nations Communities - Deborah Kupchanko

Co-authors: Mustafa Andkhoie, Ibrahim Khan, Katherine Windl, Leegay Jagoe, Brett Dow

Background: The diagnosis rates of HIV and Hepatitis-C in Saskatchewan First Nations communities are significantly higher than the overall Saskatchewan and Canadian rates.

Issue and policy research: In 2016, 50% of all newly diagnosed HIV cases in Saskatchewan First Nations communities self-reported injection drug use as a primary risk factor. Policies and programs associated with increasing HIV testing, naloxone training for opioid overdose, and increasing harm reduction programs were identified as key areas of focus to limit the spread of HIV and Hepatitis-C in Saskatchewan First Nations communities.

Analysis: An environmental scan of programs in Saskatchewan First Nations communities shows there are 23 testing sites for sexually transmitted and blood-borne infections, 11 addiction treatment centers, 13 mobile nursing and outreach teams, and 200 providers of medication assisted opioid treatments.

Describe the current status of the policy: Recent 27% increase in harm reduction programs in Saskatchewan First Nations communities. Nineteen communities offer harm reduction services to limit the spread of infections by providing clean needles and supplies; encouraging safer sex practices; and connecting people to care. So far, 828 people are trained to administer naloxone for opioid overdose.

Future implications: The policy of increasing harm reduction programs in Saskatchewan First Nations communities will lead to reduction in new HIV and Hepatitis-C cases. The increased availability of harm reduction programs could improve access to: HIV/STBBI testing, opioid replacement services, and mental wellness programs. Consequently, the policy will lead to improvement in the well-being of First Nations in Saskatchewan.

Describe how this policy alternative demonstrates innovation: Evidence-informed harm reduction programs which rely on community engagement, reduces stigma associated with HIV and connects people to the services they need to improve their personal health outcomes and ultimately stop transmission.

Describe how this policy alternative informs change to future public health policy development, practice and/or research: The policy informs future harm reduction programs in Canada as a means to tackle transmission of HIV, Hepatitis-C and other blood-borne pathogens in a way that promotes mental health and wellbeing as well as stronger relationships with indigenous communities.

86. Mental health and substance use among an urban Indigenous population in Toronto, Canada - Ragglan Maddox

Co-authors: Michelle Firestone, Sara Wolfe, Janet Smylie

Background: The recent Canadian Truth and Reconciliation report highlighted the impacts of colonization, including family disruption and dislocation from traditional lands and resultant health and social inequities. The report included calls to action to address these inequities. In urban centres, planning of Indigenous health services is hampered by critical gaps in population health information. Our Health Counts (OHC) Toronto addresses this by providing a better understand mental health and substance use among Indigenous people.

Objectives: To generate urban Indigenous population based health information and address gaps in understanding mental health and substance use.

Methods: Using a comprehensive questionnaire, interviewers surveyed First Nations, Inuit and Métis adults in Toronto recruited by respondent driven sampling. This allowed for the generation of population-level prevalence estimates. Statistical analysis was used to characterize and describe the results.

Results: Nearly half of participants (45%) reported diagnosis of psychological/mental health disorder from a healthcare worker ($n=917$). High rates of lifetime self-harm (45%), suicidal ideation (53%) and suicide attempts (36%) were also reported as well as high rates of depression and PTSD. In the past 12 months, 63% of the population reported cannabis use, 22% crack/cocaine use, 18% prescription opioid misuse.

Conclusions: OHC Toronto responded to the need for high quality, comprehensive, and inclusive health assessment data for urban First Nations, Metis and Inuit peoples. Indigenous populations in Toronto experience a disproportionate burden of health inequities, including mental health disorders and substance use. These findings identify the need for a coordinated and strategic approach to working with Indigenous communities to improve health and wellbeing.

Describe How This Research Demonstrates Innovation: OHC Toronto is Indigenous-led, built on existing community strengths and leadership and has generated representative population health data for urban Indigenous people, where previously little existed.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Working in partnership, this research has produced policy and service relevant data that will inform mental health and substance use programming and drive more effective change to address health inequities faced by urban Indigenous people.

87. Engaging youth and learning from Elders about Cree Family Values and traditional approaches to promoting non-violence in Eeyou Istchee - Amanda Paleologou

Co-authors: George Diamond, Marie-Carmen Berlie, Paul Linton, Anne Andermann

Program Purpose: To inform the development of innovative, participatory and culturally-adapted strategies for creating more supportive social environments for health in Eeyou Istchee

Target Groups: Cree Youth and Elders

Activities: To engage Youth, a presentation at the Cree Nation Youth Council in Mistissini in the summer of 2017 was used to initiate a dialogue among Youth Councils of the 9 Cree communities of Eeyou Istchee to identify shared concerns and proposed strategies for violence prevention. To learn from Elders, 12 Cree Elders were interviewed using open-ended questions, and common themes were summarized in relation to Cree values and traditional approaches to promoting non-violence

Deliverables: Youth identified 6 main strategies that would help improve and promote healthy social environments. These included: 1) anger management, 2) activities and sports for youth, 3) traditional healing, 4) couples counseling, 5) parenting classes and parenting support, and 6) self-care progra Cree Elders spoke of 3

main family values – Respect, Sharing and Kinship – that were traditionally transmitted through role modelling. While there was little or no conflict in the bush, when conflicts did arise, Elders used early intervention to talk it through before it became a larger issue.

Describe how this public health practice/program demonstrates innovation: Engaging Youth and learning from Elders is an innovative approach to designing effective public health programming and interventions that resonate with local realities and lived experiences, and are respectful of cultural norms and values.

Describe how this practice/program informs change to future public health practice, research and/or policy development: According to Youth and Elders, creating healthy and safe communities requires more emphasis on strengthening youth programming, returning to a healthy family dynamic, better supporting parents, people accessing help when needed (e.g. addictions), more traditional healing opportunities, and returning to traditional culture and values.

88. Addressing racism in healthcare through the Aboriginal Relationship and Cultural Competency courses - Michelle Rand

Co-authors: Usman Aslam, Alethea Kewayosh

Background: First Nations, Inuit and Métis (FNIM) peoples bear a disproportionately high cancer burden and face a number of health disparities, barriers and gaps to health services. One barrier for FNIM people receiving adequate healthcare is the experience of culturally insensitive healthcare including racism and discrimination.

Program Purpose: Cancer Care Ontario has developed Aboriginal Relationship and Cultural Competency (ARCC) courses that stress the importance for frontline healthcare professionals to understand and apply FNIM cultural safety to provide effective person-centred care.

Target Groups: The courses are geared to healthcare providers and others working with FNIM people, however the uptake has extended far beyond health professionals and has reached those who want to better understand FNIM history and culture.

Activities: Thirteen ARCC courses examine the concept of cultural safety for FNIM people, including colonization, the determinants of health, political governance, Indigenous knowledge and traditional health. The courses also provide an overview of community health services, as well as challenges in accessing healthcare. The courses are accredited and are interactive, which includes a variety of videos of FNIM leadership and patient stories.

Deliverables: The ARCC courses have over 10,000 course enrollments and a course completion rate of 81%. The courses are free of charge and can be taken at anytime, anywhere by anyone. Qualitative data is captured through feedback surveys, of which many people state that they will be more empathic and culturally aware of their FNIM patients or clients. When FNIM people experience culturally safe healthcare, patient experiences and outcomes are improved.

Describe how this public health practice/program demonstrates innovation: The courses address a key recommendation from the recent Truth and Reconciliation Commission of Canada report, to provide skills-based training in cultural competency, conflict resolution, human rights, and anti-racism.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Culturally sensitive, community based research will be conducted to determine whether cultural safety courses, like these, have a positive impact for FNIM people going through the healthcare system and their interaction with providers.

89. Canadian medical schools: Summary of admissions and support programs for Indigenous students - Nicole Doria

Co-authors: Liz Munn, Maya Biderman, Amy Bombay

Background: Indigenous people are under-represented in medical schools and in the medical profession. Efforts differing in nature and scope have been made at the university level to address these disparities at Canadian medical schools.

Objectives: This study sought to understand and compare the initiatives at Canadian medical schools aimed to increase the recruitment, admissions, and success of Indigenous students in their medical progra

Methods: Data were collected from each of the 17 Canadian medical schools in the form of an environmental scan. An open-ended questionnaire and/or a one-on-one semi-structured follow up interview was also conducted with stakeholders from each university. All data were collated into a report that was reviewed by each university prior to finalization.

Results: Overall, the admissions and support programs for Indigenous students at Canadian medical schools were highly variable. Compared to a similar report published in 2010 by the Indigenous Physicians Association of Canada and the Association of Faculties of Medicine, most schools have not made significant updates to their admissions processes or programming. This is despite the Calls to Action of the Truth and Reconciliation Commission (TRC) stating that medical schools must increase the number of Indigenous professionals working in the healthcare field.

Conclusions: Tracking the efforts of medical schools is critical to ensuring accountability and action towards the TRC recommendations. This report is a helpful tool for medical schools to identify both gaps and best practices in relation to admissions, policies, and programs for Indigenous students.

Describe How This Research Demonstrates Innovation: This report is the first of its kind since the TRC Calls to Action were released.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Increasing the number of Indigenous physicians is a vital step towards reducing the disparity in health outcomes for Indigenous peoples and to providing culturally relevant and meaningful healthcare. Canadian medical schools need to better develop admissions and affirmative action policies that improve the recruitment, admission, and success of Indigenous students in medical programs.

90. Effectiveness of current curricula in adequately preparing Dalhousie University health professional students to work with Indigenous peoples - Nicole Doria

Co-authors: Maya Biderman, Jordan Boudreau, Amy Bombay

Background: Indigenous peoples across Canada continue to face unequal access to culturally-safe health care, and have poorer health outcomes as a result. Mandating the inclusion of content related to Indigenous peoples' health within the training of health professionals was called for by the Truth and Reconciliation Commission as a necessary step towards improving health care services for Indigenous peoples.

Objectives: This study sought to understand the perspectives of faculty who teach in the medicine, dentistry, nursing, pharmacy, and social work programs at Dalhousie University with respect to the current Indigenous health content in curricula.

Methods: One-on-one semi-structured interviews were conducted in 2016-17 with 32 faculty/lecturers across the aforementioned progra Thematic analysis revealed a consensus that the current curricula were insufficient in providing a foundation of knowledge for students to work safely with Indigenous peoples in healthcare settings.

Results: Four main themes emerged: (1) more Indigenous content is needed, (2) there needs to be an Indigenous voice represented throughout the development and delivery of curricula, (3) support for improved content needs to “come from the top” of the institution, and (4) the content needs to be developed and implemented methodically, not merely to “check a box”.

Conclusions: Improving the quality of Indigenous health education is crucial for producing culturally competent healthcare professionals who can serve Indigenous peoples and communities. Reforming health profession curricula to include sufficient content related to Indigenous health is therefore foundational in reducing the health inequities experienced by Indigenous peoples across Canada.

Describe How This Research Demonstrates Innovation: This study is the first of its kind to investigate how to adequately prepare health professional students to work with Indigenous peoples and communities through a pedagogical lens.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research is being used at Dalhousie University to inform the introduction of policies that mandate first-rate Indigenous content in health professions curricula. This research presents important baseline data for universities across Canada working towards equitable healthcare delivery.

91. Lessons Learned in Operating a new Urban Indigenous Dental Clinic - Nancy Kennedy

Background: In 2016, Ottawa Public Health opened a dental clinic at the Wabano Centre for Aboriginal Health. A range of services are provided including preventive and treatment in a this culturally safe environment. Clients include First Nations, Inuit and Métis people living in Ottawa.

Program Purpose: This session will outline the lessons learned from our experience in the first 18 months of operation including what adjustments that have been made to provide dental care.

Target Groups: This session will be of interest to those working with Indigenous groups; health care and oral health professionals; leaders and support workers wanting to learn about culturally safe oral care delivery to urban Indigenous people.

Activities: oral presentation: Activities that contributed to the success of the dental clinic will be discussed such as:

- Staff cultural learning and competency training
- Consultation with Indigenous partners and clients, identified barriers for accessing dental care and strategies developed
- How we work collaboratively with Wabano medical professionals as well as the broader Indigenous community
- Insight on what the clients’ experience at the clinic and adjustments made by the team

Deliverables: This session will outline the experience of reducing health inequalities and disparities among this group in the 18 months of operation of an Indigenous dental clinic.

Describe how this public health practice/program demonstrates innovation: This innovative dental clinic demonstrates that different strategies are needed to be successful to engage improve the oral health status of urban indigenous residents living in Ottawa. In its first year, the clinic had approximately 1,100 visits providing services to 500 patients.

Describe how this practice/program informs change to future public health practice, research and/or policy development: This program shares the experience of establishing a dental clinic to serve an indigenous patient group so that others can consider this approach.

92. Impacts of climate-related decline of seafood harvest on nutritional status of coastal First Nations in British Columbia, Canada - Lesya Marushka

Co-authors: Tiff-Annie Kenny, William Cheung, Laurie Chan

Background: Traditional food systems are under pressure from various stressors, including climate change which is projected to negatively alter the abundance of marine species harvested by coastal First Nations (FNs) in British Columbia (BC).

Objectives: To model the potential impacts of the climate-related declines in seafood abundance on nutritional status of coastal BCFNs. Also, we projected potential changes in nutrient intakes, under different scenarios of substitution of seafoods with alternative foods.

Methods: The study design is a mixed-methods approach which combines two datasets: projected scenarios of climate-related change on seafood catch potential for coastal BCFNs and data from the First Nations Food, Nutrition, and Environment Study. Seafood consumption was estimated using a traditional food frequency questionnaire among 356 BCFNs adults. The contribution of seafood consumption to protein, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), vitamin (A, B12, D, niacin), and mineral (zinc, selenium) requirements was assessed using Dietary Reference Intakes (DRIs).

Results: Traditional seafood consumption provided daily recommendations of EPA+DHA (74-184%) and vitamin B12 (84-152%), and substantial levels of niacin (28-55%), selenium (29-55%), vitamin D (15-30%) and protein (14-30%). Projected climate change was estimated to reduce the intake of essential nutrients by 21% and 31% under lower and upper climate change scenarios by 2050 relative to 2000. The substitution of seafood with selected alternative foods (chicken, canned tuna and bread), do not provide adequate amounts of nutrients, particularly those primarily derived from marine sources including EPA+DHA, vitamin B12, vitamin D, and selenium.

Conclusions: Traditionally-harvested seafood remains fundamental to the contemporary diet of BCFNs. Dietary shifts aggravated by climate-related declines in seafood consumption may have significant nutritional and health implications.

Describe How This Research Demonstrates Innovation: This study is first to explore the impact of climate change on nutritional status of coastal BCFNs.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The findings will be useful to develop strategies to improve seafood harvest potential in coastal communities to ensure nutritional health and food security in BCFNs.

93. Our Health Counts Toronto – using respondent-driven sampling to unmask census undercounts of an urban Indigenous population in Toronto, Canada - Kristen O'Brien

Co-authors: Michael Rotondi, Sara Wolfe, Patricia O'Campo, Janet Smylie

Background: The number of Indigenous people living in urban settings has been increasing for several decades and consequently the majority of Indigenous people in Canada now live in cities. Moreover, evidence suggests significant inequities in health determinants and health status for Indigenous peoples in urban areas.

Objectives: To provide evidence of the magnitude of census undercounts of 'hard-to-reach' subpopulations, and improve estimation of the urban Indigenous population size in Toronto, Canada using respondent-driven sampling (RDS).

Methods: RDS was used to collect health and social service information from Indigenous people living in Toronto. Population-level estimates were constructed for a variety of outcomes, including demographic information. Our primary outcome asked: "Did you complete the 2011 Census Canada questionnaire?"

Results: Using RDS and our large-scale survey of the urban Indigenous population in Toronto, we have shown that the recent Canadian census underestimated the size of the Indigenous population in Toronto by two to four times. Specifically, under conservative assumptions, there are approximately 55,000 (95% CI:45,000-73,000) Indigenous people living in Toronto; at least double the current estimate of 19,270.

Conclusions: Our Indigenous enumeration methods, including RDS and census completion information will have broad impacts across governmental and health policy, potentially improving health care access for this community.

Describe How This Research Demonstrates Innovation: RDS is recognized as a statistically rigorous method for gathering data on “hard-to-reach” populations. Our Health Counts represents a novel application of RDS among Indigenous populations.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Public policies, including needs-based distribution of health and social resources, are generally funded on demographics, social determinants of health and unmet health needs. Our study scientifically demonstrates what urban Indigenous service providers have been asserting for decades –the Indigenous population is much larger than Canadian census estimates. Adjustments by policy makers towards more equitable service resources, based on our study, are already underway. Statistics Canada is also exploring the use of RDS to improve future Indigenous census data.

94. Exploring First Nation People’s cardiac health disparities by investigating health and treatment outcomes among Manitoba index coronary angiogram recipients - Annette Schultz

Co-authors: Lindsey Dahl, Elizabeth McGibbon, R. Jarvis Brownlie, Catherine Cook, Basem Elbarouni, Alan Katz, Thang Nguyen, Jo Ann Sawatzky, Moneca Sinclair, Karen Thronson, Randy Fransoo

Background: First Nations (FN) index coronary angiogram (ICA) recipients in Manitoba are younger, have more comorbidities, and tend to reside in rural and lower income areas compared to non-FN counterparts.

Objectives: To compare health and treatment outcomes between FN and non-FN ICA recipients; controlling for recipient characteristic differences.

Methods: This retrospective cohort study analyzed administrative health data for all Manitoba adult ICA recipients between 2000/01-2008/09. Recipients were stratified into AMI-related (previous 7 days) or non-urgent groups; then one to five year post-procedure outcomes were investigated. Adjusted Cox proportional hazards and logistic regression models were constructed for stratified groups to determine associations between ethnicity and outcomes.

Results: A total of 25,816 ICAs were identified; 6,497 AMI-related and 19,319 non-urgent. In each stratified group, FN recipients were more likely to die from cardiovascular and other events, and to be readmitted to hospital for an AMI, congestive heart failure, ischemic heart disease, and all causes within five years. FN recipients were less likely to visit a cardiovascular specialist, internist, or GP after 3 months and 1 year, and medication possession rate (MPR) >80% for beta-blockers and statins after 1 year. FN patients in the AMI-related group were also less likely to have an MPR >80% for ACE-inhibitors. Revascularization rates of PCI or CABG procedures in the AMI-related group showed no differences, while FN recipients in the non-urgent group were more likely to undergo CABG.

Conclusions: FN ICA recipients experience disparate long-term health outcomes even after controlling for recipient characteristic variables, and regardless being in AMI-related or non-urgent group. Follow-up health services suggest access differences among FN recipients; most notably regarding physician, and specialists.

Describe How This Research Demonstrates Innovation: The first Canadian study to examine differences in outcomes between FN and non-FN ICA recipients.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Primary and cardiac healthcare practice strategies to circumvent access disparities with cardiac follow-up services. Explore systemic racism influencing access to follow-up cardiac services.

95. A Systematic Review of Resilience Research among Indigenous Youth in Contemporary Canadian Contexts - Melody Rowhani

Co-author: Andrew Hatala

Background: In submission for an Oral or Poster Presentation

Objectives: The following article is a systematic review of health literature that considers processes of resilience among Indigenous youth in Canadian contexts.

Methods: Through a systematic review of seventeen mixed-methods studies, this article

briefly outlines the health disparities that exist among this population, while at the same time examining how resilience processes can inform strength-based approaches designed to improve the health and well-being of Indigenous youth in Canada.

Results: Central themes and prevalent findings discussed from this review include: (1) the role of cultural continuity; (2) community and family ties; and (3) empowering youth progra

Conclusions: Future implications for public health and community wellness initiatives should include a collaborative approach alongside Indigenous youth and their communities to understand resilience better as well as incorporating these relevant findings to contribute to strength within health and wellness related programming.

Describe How This Research Demonstrates Innovation: Often when looking at the health of Indigenous youth, research can be looking through a problem-based lens, when, in reality, this population holds many strengths that, when working in collaboration, could contribute to factors that contribute to resilience among these communities.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The focus on resilience is not meant to side-step important policy and system or structural inequities that contribute to the disproportionate burden of ill health experienced within Indigenous communities. Rather, in this context one could consider in going forward, should health programs even need a notion of resilience? Is it wrong to expect youth to have to endure the difficult context and rely on their resilience to survive? These developments would suggest that future community health practice should involve Indigenous youth across different communities in defining what resilience is, as well as in implementing practice that brings strength, health, and well-being to their community.

96. Promoting Resilience and Positive Mental Health Among Indigenous Youth Through Community Theatre - Stephanie Montesanti

Co-authors: Rita Henderson, Lindsay Crowshoe, Keri Williams

Background: Trickster Warrior is a forum theatre-based primary suicide prevention strategy for on-reserve and urban Indigenous youth. The program was first piloted in one First Nation community in Southern Alberta in 2015, by researchers at the University of Calgary and University of Alberta.

Objectives: Promote youth mental health through artistic performance; Use performance to promote knowledge and create awareness about Indigenous youth experiences among service providers and policy-makers; and Foster new insights and community perspectives for supporting the mental health of Indigenous youth.

Methods: An Indigenous community suicide prevention coordinator facilitated two pilot forum theatre workshops with youth (n=18, ages 14-20). Youth participated in 37 workshop sessions during which they practiced theatre games, developed a play script, and explored mental health pressures. The play was performed in Summer 2017 in their community. A pre-workshop screening survey was administered to the youth to assess resilience-promoting factors such as personal capacity, social relationships and connection to their community and culture.

Results: Initial screening of the research data shows that the workshop process had a positive impact, reflecting in higher youth confidence, and a sense of mastery and control. Besides successfully developing a play and performing in front of the large audience, the major success came through workshoping where youth were empowered, and trust was built.

Conclusions: Forum theatre poses strengths-based and transformative community-driven solutions that are adaptable to diverse experiences among at-risk youth. It offers a means of promoting health and self-advocacy through a collaborative, arts-based approach that engages both youth actors and community members.

Describe How This Research Demonstrates Innovation: Such an approach offers opportunities for empowering Indigenous youth, developing shared understandings at the community level regarding issues concerning health and wellness, identifying community strengths in support of addressing youth suicide and developing transformative community-driven solutions to wellbeing more generally.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Forum theatre offers viable and impactful opportunities for primary suicide prevention policy and programming. Such method addresses relationships between Indigenous youth suicide and complex social issues arising from colonization.

97. Launch of a Global Knowledge Translation and Exchange Platform for Equity-Focused Health Evidence and Research - Stephanie Montesanti

Co-authors: Joshua Berman, Emmay Mah, Farah Mawani

Background: The global Knowledge Translation Platform for Equity-focused Health Evidence and Research (KT-PEER) network was formed in 2015 by Indigenous, Canadian, South American and African collaborators. KT-PEER convenes leading multi-disciplinary Canadian and international knowledge translation (KT) and non-communicable (NCD) scholars, policymakers and practitioners.

Issue and policy research: Globally, there are between and within country inequities in NCD incidence, prevalence, and mortality. Low- and middle-income countries are disproportionately affected by NCDs. Within Canada and other high-income countries, the burden of chronic disease is disproportionately borne by Indigenous people, excluded, and underserved populations.

Analysis: KT-PEER is working to advance the development and evaluation of new NCD strategies at sub-national, national and international levels that are inclusive of at-risk and underserved populations, and specifically address inequity in health outcomes. The network enables Canadian and international health organizations to forge new evidence-driven collaborations that accelerate mutual access to best practices and lessons learned to improve non-communicable disease (NCD)-related health outcomes of Indigenous, excluded, and underserved populations.

Describe the current status of the policy: Historically, the flow of knowledge was perceived as unidirectional: from high-income to low-income countries. KT-PEER challenges this notion by envisioning a world where the right combination of scientific, social and technological platforms enables evidence-informed knowledge to flow in any direction, to where it is most needed.

Future implications: *Collaborative knowledge generation* processes among partners working in geographically disparate global regions can facilitate the co-development of valuable NCD research and knowledge products. It

is critical that the work generated through these processes do not override or mask the need for locally-driven and place-based approaches.

Describe how this policy alternative demonstrates innovation: KT-PEER has generated a new global partnership model that transforms traditional North-South knowledge flows, wherein Network members engage in “multidirectional” knowledge exchange and evidence generation

Describe how this policy alternative informs change to future public health policy development, practice and/or research: KT-PEER convenes leading multi-disciplinary Canadian and international knowledge translation (KT) and NCD scholars, policymakers and practitioners. These individuals are strategically positioned in their organizations to accelerate the flow of evidence-informed knowledge and champion its application to the development and evaluation of sub-national, national and international NCD policy, practice and research.

98. Keeping up-to-date in a changing field: Strategies for continuous improvement of the Health Evidence™ registry Claire Howarth

Co-authors: Kristin Read, Maureen Dobbins, Heather Husson, Donna Ciliska, Colleen Van Berkel

Background: Health Evidence™ is a registry of quality-rated review articles on the effectiveness of public health interventions.

Objectives: To explain how the Health Evidence™ repository is keeping up-to-date in a changing public health field.

Methods: Health Evidence™ implemented strategies for continuous improvement throughout 2017 to ensure alignment with current public health practice and comprehensiveness of the repository. The relevance criteria were reviewed by public health experts for continued applicability to the field and subsequently, articles in the registry were re-assessed for relevancy. The search strategy used to identify review-level evidence was compared to other systematic review hedges.

Results: The review of the relevance criteria resulted in a narrowed scope in some populations/settings and a broadened scope in others based on current public health priorities. The re-screen of registry reviews from 2007 to 2017 identified 469/3943 (approximately 12%) reviews as no longer relevant. The Health Evidence™ search strategy was compared to the PubMed systematic review search filter and the Pearl Harvesting systematic review search hedge for one month and three month intervals. Approximately 29.35% unique results were captured; after relevance testing on average one unique potentially relevant review not captured within the Health Evidence™ search strategy was identified per one month interval. Based on this analysis, the currently used search strategy optimizes both relevance and resources.

Conclusions: These continuous improvement projects demonstrate how Health Evidence™ is staying up to date in a changing public health field.

Describe How This Research Demonstrates Innovation: Keeping up-to-date in a continuously changing field is challenging. A focus on innovative strategies to ensure Health Evidence™ is able to adapt to changing contexts is key to its success as an organization focused on knowledge translation.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: As the public health field is continuously changing and adapting to address shifting contexts and priorities, it is important that Health Evidence™ continues to align with current public health practice in order to help increase access and use of research evidence in the field.

99. Getting the message out: A multipronged strategy for promoting new tools and resources to a public health audience - Kristin Read

Co-authors: Rawan Farran, Zhi (Vivian) Chen, Claire Howarth, Emily Clark, Hana Tasic, Maureen Dobbins

Program Purpose: The goal of this strategy is to effectively promote the availability of new products from the National Collaborating Centre for Methods and Tools and communicate the value of our tools and resources to support the development of knowledge and skills for practicing evidence-informed public health.

Target Groups: Public health practitioners and decision makers across Canada

Activities: We use a multipronged strategy to disseminate information for each of our new product launches. We develop targeted messaging for each new product and write promotional content in different formats to fit the intended audience and medium. Each new product is promoted as the featured story in our monthly newsletter (9,892 subscribers), posted each week to our social media accounts (e.g., Twitter = 1,917 followers), and distributed to 75 external organizations with a request to share within their respective distribution circles.

Deliverables: Expanding our reach through various channels, we aim to increase the uptake and use of resources supporting evidence-informed public health practice. To assess the impact of our efforts, we collect data to measure user engagement with the various media, which allows us to continually refine and update our dissemination strategy. A recent product launch using these strategies showed a 421% increase in website traffic to the product page compared to the subsequent month (1,229 pageviews in September 2017 vs. 236 pageviews in October 2017).

Describe how this public health practice/program demonstrates innovation: The multipronged strategy is developed in such a way that it is able to continually change in response to feedback. The organizations included in the external promotion were carefully selected based on a social network analysis conducted in 2016 that identified the top organizations that public health practitioners go to for information on knowledge translation in Canada, thereby using an innovative approach for identifying avenues for dissemination with the most potential to reach the intended audience.

Describe how this practice/program informs change to future public health practice, research and/or policy development: This multipronged strategy encourages and supports the uptake of evidence-informed public health practice and provides an opportunity to assess and compare the potential impact of different communication strategies in public health.

100. #URWhatUTweet: The potential for social media to enhance higher education in public health - Miriam Price

Co-authors: Karla Boluk, Elena Neiterman, Sharon Kirkpatrick

Background: Social media is increasingly relevant to public health practice, and may support higher education in public health by promoting critical thinking and collaboration.

Objectives: Our objective was to examine whether a Twitter assignment fostered engagement and application of concepts in a large public health nutrition course.

Methods: During fall 2016, 146 students participated in an image-driven Twitter assignment and completed reflections about the experience; 115 provided consent for their submissions to be analyzed. Semi-structured interviews were subsequently conducted with the instructor and teaching assistants to gain insights into the assignment's implementation. Line-by-line coding and thematic analysis were conducted to examine patterns of student engagement in the data.

Results: An emerging theme included the role the assignment played in encouraging students to revisit and apply course materials. One student noted: "It's not often that I comb through course content looking for connections [...], but this activity fostered an active and engaged mindset with the concepts we covered..."

Further, students indicated they engaged with one another in ways that helped make concepts, such as the cultural aspects of food or the influence of marketing and pseudoscience, 'real'. While some struggled with engaging in critical thinking in 140 characters (exhibited via superficial tweets), others noted this constraint forced them to communicate creatively and concisely. The data also revealed the critical role of clear instructions and ongoing feedback over the term to support students in understanding the novel assignment.

Conclusions: Social media can support students' engagement with and effective communication of public health concepts. However, meaningful engagement of instructors and ongoing feedback are critical.

Describe How This Research Demonstrates Innovation: Determining the benefits and challenges of innovative assignments incorporating social media for deep learning and engagement is needed to inform future practice.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research informs the thoughtful use of social media in the training of public health professionals.

101. Asking the "right" public health questions right – what about PICO? - Beata Pach

Co-authors: Susan Massarella, Minakshi Sharma

Background: There are inherent challenges in developing research questions within public health contexts due to its multidisciplinary nature. The PICO model, rooted in clinical medicine, is best suited for quantitative research on the effectiveness of interventions/therapy but less applicable to public health topics dealing with qualitative research.

Objectives: Discuss the ongoing challenges when applying the PICO framework to public health topics and provide:

- Summarize frameworks used in specific disciplines
- Recommend appropriate frameworks used to develop and answer PH research questions
- Assess utility of the frameworks for evidence retrieval and data analysis

Methods: A literature review of existing research question frameworks was undertaken to complement the work already informed by grey literature for the purpose of creating templates for frameworks applicable to public health; categorizing types of public health questions; providing examples of questions applicable to specific frameworks.

Results: The frameworks templates guide not only the development of the research question, but the screening criteria, data extraction and inclusion of studies for final review.

Conclusions: PICO was the first framework to achieve widespread use in the research world. However, there are other frameworks that may serve better for public health research areas that rely more on qualitative research. Furthermore, often the most effective use of frameworks is not in formulating the question, but as a tool for clarity in developing inclusion/exclusion criteria for screening.

Describe How This Research Demonstrates Innovation: The PICO framework, while useful, may be limiting for researchers in public health who need to consider elements other than PICO as useful, and will expand use of frameworks beyond formulating a question.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The use of research question frameworks will increase efficiency and effectiveness in conducting literature reviews to inform public health practice. The resulting toolkit will support public health research and increase methodological consistency of knowledge products.

102. Evaluating researchers' knowledge, attitudes, and practices related to integrated knowledge translation in a biomedical study of food allergy - Emily Shantz

Co-authors: Susan J. Elliott, Jenna Dixon, Ann E. Clarke, Adele Iannantuono, Stephanie Heath

Background: Genetics, Environment and Therapies: Food Allergy Clinical Tolerance Studies (GET-FACTS) is a CIHR-funded project investigating food allergy. There are four research pillars: 1) Identifying novel biomarkers for food allergy; 2) environmental and 3) genetic factors influencing tolerance to foods; and 4) integrated knowledge translation (IKT). The IKT component involves collaboration between project scientists and a steering committee of food allergy stakeholders to facilitate end user-driven research.

Objectives: This research investigated knowledge, attitudes, and practices of GET-FACTS researchers regarding IKT midway through the project.

Methods: A mid-point touch-base survey was administered to all researchers, including steering committee members and scientists. An online platform was used to deliver surveys and analyze results.

Results: The survey was completed by N=7 steering committee members and N=15 scientists. Both groups indicated that their understanding of the role of IKT in research increased over the course of GET-FACTS, and steering committee members reported increased understanding of the scientific process. Although nearly all researchers reported being somewhat or very satisfied with communications among and between the steering committee and scientists, some expressed disconnectedness or a desire for more opportunities for interaction.

Conclusions: GET-FACTS researchers demonstrated a range of knowledge, attitudes, and practices related to IKT that were influenced by the IKT process in which they are embedded. These findings will inform future communications and IKT practices among GET-FACTS researchers.

Describe How This Research Demonstrates Innovation: These findings are part of a larger research agenda to implement and evaluate IKT within a biomedical research program. This will result in development of a model to embed IKT within future health research involving knowledge creation.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research provides insight into how IKT can be effectively implemented in biomedical studies to support end user-driven research and co-production of knowledge.

103. Supporting Evidence-Informed Public Health Decision Making in Cancer Prevention - Emily Belita

Co-authors: Olivia Marquez, Jennifer Yost, Maureen Dobbins

Background: Based on the pervasiveness and costliness of cancer, it is critical to implement effective prevention strategies informed by the best available research evidence. Despite increased expectations for evidence-informed decision making in public health, challenges to achieving this exist.

Objectives: To enhance awareness and use of high quality cancer prevention evidence among Canadian public health professionals by implementing three knowledge translation (KT) strategies.

Methods: In this 18-month prospective cohort study, KT strategies (tailored email messages (TMs), webinars, and Twitter) were used to disseminate research evidence to health professionals in Canada who make decisions or provide services related to cancer prevention. Data was collected via an electronic survey at baseline (Fall 2015) and follow-up (Spring-Fall 2017) on awareness and use of research evidence, and satisfaction with KT strategies.

Results: Final data analysis is pending and preliminary results are presented. At baseline, 313 participants enrolled in the study and 134 participants (42.9%) completed follow-up. Higher satisfaction scores were reported for TMs (M = 31.6, SD = 8.1) and webinars (M = 31.4, SD = 7.7), compared to Twitter (M = 24.9, SD = 8.2). Greater satisfaction was reported for increasing awareness of high quality research evidence, as compared

to promoting its use in practice. A marginally significant difference was found between pre- ($M = 4.6$, $SD = 1.4$) and post-scores ($M = 4.4$, $SD = 1.4$) in awareness of high quality research ($p = 0.096$).

Conclusions: There is modest satisfaction among public health professionals regarding use of online KT strategies in cancer prevention, with greater satisfaction for increasing awareness of high quality research evidence rather than promoting its use in practice.

Describe How This Research Demonstrates Innovation: This contributes to emerging literature on web-based KT strategies by investigating the impact of single and multi-faceted online KT strategies for cancer prevention in public health.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study provides insight on best practice methods to transform how research evidence is disseminated and applied in public health in Canada.

104. Evaluation of Ontario's Online Cancer Risk Assessment Tool, My CancerIQ - Mohammad Haque

Co-authors: Victoria Nadalin, Alice Peter, Rebecca Truscott, Michelle Cotterchio, Elisa Candido

Background: My CancerIQ (MCIQ) is Ontario's online cancer risk assessment tool, in which users complete questionnaires for specific cancer types, obtain estimates of their cancer risk relative to Ontarians of the same age, and receive a personalized action plan for prevention.

Objectives: To evaluate the effect of MCIQ on cancer knowledge and risk perceptions among the public, and examine interest in its use among primary care practitioners (PCPs).

Methods: Ontarians aged 35 to 64 were recruited from an existing online panel. Those who completed a questionnaire about cancer prevention knowledge and beliefs were randomized into experimental or control groups. Forty-eight hours later, the experimental group completed: MCIQ cancer risk assessment(s) and a survey about the tool. The control group received no intervention. Two weeks later all participants completed a follow-up questionnaire. Pre- and post- differences were measured with paired t-tests ($P < 0.05$). PCPs recruited from a health professional list were asked about familiarity with, and perceived usefulness of online tools and MCIQ.

Results: At follow-up, significant improvements on many measures, including perceived knowledge about cancer risk factors, belief cancer is preventable, and belief that specific cancer types are preventable were observed among the experimental group ($n=502$) but not the control group ($n=214$). MCIQ appeared to have a greater impact on males than females. Of 204 PCP participants, most (91%) were likely to refer patients to MCIQ to: educate and have conversations with patients (62%), empower patients (49%), and because the e-tool provides valuable information and resources (49%).

Conclusions: MCIQ had a positive impact on cancer knowledge and risk perceptions among the general public, and most PCPs felt the tool was useful.

Describe How This Research Demonstrates Innovation: While several online risk assessment tools exist, little is known about their impact. This innovative project measures both effectiveness of and professional interest in MCIQ.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research will inform risk assessment tool development, and positioning with practitioners.

105. Burden of Cancer Caused by Infections in Ontario - Mohammad Haque

Co-authors: Victoria Nadalin, Elisa Candido, Michelle Cotterchio, Julie Klein-Geltink, Sandrene Chin Cheong, Alice Peter

Background: Several infectious agents are classified as “carcinogenic in humans”. It is unknown how many cancers are attributable to these agents in Ontario. **Objectives:** To describe the results of Cancer Care Ontario’s report, *Burden of Cancer Caused by Infections in Ontario*, which quantifies the cancer burden attributable to infections, and outlines cancer prevention opportunities.

Methods: Population attributable fractions (PAFs) were calculated for 7 infectious agents: human papillomavirus (HPV), *Helicobacter pylori* (*H. pylori*), hepatitis C virus (HCV), Epstein-Barr virus, hepatitis B virus (HBV), human herpesvirus 8, human T-cell lymphotropic virus, type 1, and their associated cancers. PAF inputs included Ontario-specific prevalence estimates for each infection in the general population (or among cancer cases) and relative risks for a given infection and cancer type. To account for uncertainty, plausible ranges were calculated around each PAF estimate. Attributable cases were determined by applying PAF estimates to 2013 incidence data from the Ontario Cancer Registry.

Results: In 2013, approximately 3,100 (plausible range 2,443 to 3,591) new cancer cases in Ontario were attributed to infections, accounting for roughly 4 percent of all new cancers and 32 percent of the 15 cancer types known to be associated with one or more of these agents.

Conclusions: Most of the cancer burden attributable to infections was due to HPV, *H. pylori*, HCV and HBV, which have known means of prevention. Our results suggest some identifiable opportunities to decrease the cancer burden attributable to infections in Ontario.

Describe How This Research Demonstrates Innovation: Available data were utilized to quantify the cancer burden resulting from infections in Ontario, which has not previously been undertaken.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The cancer burden attributable to infections with known means of prevention suggests that efforts to improve these (e.g., early detection, treatment, immunization), and improving the health of those with HIV is the best means to decrease the infection-attributable cancer burden in Ontario.

106. Communicating a refined 3As smoking cessation model to healthcare providers in Ontario’s Regional Cancer Centres - Erin Cameron

Co-authors: Marcia Bassier-Paltoo, Rebecca Truscott, Mohammad Haque, Naomi Schwartz

Background: For cancer patients who smoke, evidence suggests that the risk of dying could be lowered by 30-40% by quitting smoking at the time of cancer diagnosis. Cancer Care Ontario (CCO) implements a smoking cessation program in Ontario’s 14 Regional Cancer Centres (RCCs).

Program Purpose: Barriers to implementing the well-known 5As smoking cessation model (Ask, Advise, Assess, Assist, Arrange) prompted a program refinement. This included moving to the very brief 3As smoking cessation model (Ask-Advise-Act), and transitioning to an opt-out approach for cessation referrals. To help promote the new model, CCO implemented a communications strategy.

Target Groups: Healthcare providers in Ontario’s RCCs.

Activities: CCO conducted an environmental scan, reviewed the evidence and sought expert opinion to gain consensus on formulating the refined model. Communication tools were developed to relay the 3As model to key stakeholders.

Deliverables: A 3-pronged communications strategy was employed: Development of knowledge products, use of professional networks and hosting events for key stakeholders. Knowledge products included a one-pager and pocket card describing the new model and suggesting scripts for asking, advising and referring patients for

cessation support. The pocket card also provided scripts to describe the treatment-specific benefits of smoking cessation. Other deliverables included posters, a pull-up banner, a video highlighting the new model, webinars, and expansion of the existing website and Community of Practice.

Describe how this public health practice/program demonstrates innovation: This is the first time that the evidence-based 3As smoking cessation model and opt-out approach has been implemented in the RCCs, and it has the potential to spread beyond Ontario's cancer system. Knowledge products specific to smoking cessation for people with cancer are being used across the province in an effort to drive quality improvements in regional smoking cessation efforts.

Describe how this practice/program informs change to future public health practice, research and/or policy development: The 3As model is simpler and less time-consuming for healthcare providers to implement, and the opt-out approach increases patient uptake of referrals to smoking cessation services.

107. A systematic review of compliance with indoor tanning legislation - Jessica Reimann

Co-authors: Jennifer McWhirter, Andrew Papadopoulos, Cate Dewey

Background: Many jurisdictions have enacted indoor tanning legislation in response to the health risks of artificial ultraviolet radiation exposure. Key components of these legislations include banning minor access, posting health warning signs, and providing protective eyewear, among others. However, legislation must be complied with to be impactful.

Objectives: Identify prevalence of compliance with key components of indoor tanning legislations.

Methods: A systematic review was conducted to obtain peer-reviewed literature about compliance with indoor tanning legislation worldwide. Six databases were searched, resulting in 12,398 citations. Fifteen studies met the inclusion criteria.

Results: Compliance with most aspects of indoor tanning legislation varied. Compliance with age restrictions ranged from 20% to 89% (mean=55%; standard deviation=27), while compliance with posting warning labels in the required locations within a tanning facility ranged from 8% to 72% (mean=44%; standard deviation=27). There was good compliance for provision of protective eyewear (84% to 100%; mean=92%; standard deviation=8). The reasons for such low and varied compliance with certain aspects of legislation, and high compliance with other aspects of legislation, will be discussed, but deserve further attention in future research.

Conclusions: Variability in compliance with indoor tanning legislation suggests there may be problems with enforcement of the legislations, which indicates they are not having their intended protective effects on the public's health. Best practices around ensuring high and consistent compliance with indoor tanning legislations will need to be determined to better protect the public from the health risks of artificial ultraviolet radiation exposure.

Describe How This Research Demonstrates Innovation: Evidence around compliance with indoor tanning legislations has not been synthesized, and is an important step toward determining changes in indoor tanning practice due to legislation.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Evidence synthesis will provide researchers and policy makers with information that may help guide implementation and evaluation of indoor tanning legislation.

108. A systematic review of the impact of indoor tanning legislation on youth - Jessica Reimann

Co-authors: Jennifer McWhirter, Andrea Cimino, Andrew Papadopoulos, Cate Dewey

Background: Artificial UV radiation exposure from indoor tanning leads to an increased risk of skin cancer. Many countries have implemented indoor tanning legislation to prohibit youth from indoor tanning. It is important to determine the effect indoor tanning legislation has had on the prevalence of indoor tanning amongst youth, as these changes will have the greatest long-term impact on health outcomes.

Objectives: Identify whether, and the extent to which, indoor tanning legislation has influenced youth indoor tanning behaviour.

Methods: A systematic review of peer-reviewed literature about the impact of indoor tanning legislation on youth indoor tanning prevalence was conducted. Six databases were searched, resulting in 12,398 citations. Reference lists from relevant articles were also searched. Six studies met the inclusion criteria.

Results: The impact of indoor tanning legislation varied. Some studies found no association between youth-access indoor tanning legislation and the prevalence of indoor tanning ($n=3$), while others reported significant changes in indoor tanning prevalence ($n=3$). Most studies reported decreases in youth indoor tanning prevalence after the legislation relative to before ($n=3$), although not all were statistically significant (range=1%-6% decrease, mean=3%). The prevalence of youth indoor tanning was lower in jurisdictions with indoor tanning legislation compared to jurisdictions without legislation (range=1%-7% lower, mean=3%). Reasons for variability around the impact of the legislation will be discussed.

Conclusions: The impact of legislation showed numerical decreases in youth indoor tanning prevalence, but never completely stopped youth from tanning. Indoor tanning legislation was limited in its impact on the prevalence of youth indoor tanning, which may be related to enforcement strategies.

Describe How This Research Demonstrates Innovation: This is the first research to synthesize the evidence on the impact of indoor tanning legislation.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This evidence synthesis will provide researchers and policy makers with a summary on the impact and effectiveness of indoor tanning legislation, which may inform improvements in policy or enforcement.

109. Building lasting connections: Developing and implementing a student/trainee mentoring program - Dan Johnson

Background: Informal mentoring has occurred at Public Health Ontario with a variety of students and trainees as they complete placements and rotations. A formal mentoring program was developed to provide additional support.

Program Purpose: The program matched students and trainees with PHO staff, and focused on exploring career options, receiving support for academic planning and transitioning into the workforce, and building professional networks.

Target Groups: Emerging public health professionals, public health staff, preceptors, mentors.

Activities: Activities in the mentor program included:

- program planning and development
- recruitment of mentors and mentees
- matching of participants with similar needs and goals
- training of mentors and orientating mentors and mentees to the program
- providing ongoing support and coaching

Deliverables: The program had 19 mentees and 19 mentors, and ran from May to August 2017. The majority of mentees were studying in the Master of Public Health program. Mentors completed self-assessments, adapted

from Mentoring Competency Assessment (MCA), a validated survey developed at the University of Wisconsin, Madison, at the beginning and end of the program. Additionally, all program participants completed evaluation and reflections to comment on the program and if they were able to achieve their personal goals. Participants reported that overall, the program did meet their needs and they gained skills and acquired new knowledge through the program.

Describe how this public health practice/program demonstrates innovation: The mentoring program demonstrates a new and engaging way of contributing to the overall learning environment at PHO, and it also allowed more employees to engage in the development of students into public health professionals. It also allowed conversations with students to expand beyond placements and discuss career paths, additional learning opportunities and expanding professional networks.

Describe how this practice/program informs change to future public health practice, research and/or policy development: A mentoring program allows more employees the opportunity to teach and learn from students and trainees, and gives students and trainees greater exposure to career options in public health.

110. Targeting the Campus Community: A Sexual Assault Awareness Campaign - Sara Bhatti

Co-authors: Caitlin Johnston, Shilo St. Cyr, Valerie Reede

Purpose: Recent increases in both the number of survivors accessing BC Women's, Sexual Assault Service (SAS) and the number of reported sexual assaults (SA) on post-secondary campuses across BC, indicate the need for an education campaign targeted to campuses that debunk rape culture myths as they perpetuate SA.

Activities: In a joint initiative with the UBC AMS Sexual Assault Support Centre, a suite of video vignettes were developed, each highlighting common misconceptions around SA. Themes for the videos were based off scenarios SA counsellors were frequently encountering. Feedback for scripts were obtained from multiple groups (students, counsellors, etc.) and went through multiple reiterations.

Deliverables: Videos are under 1 minute and use social media (i.e. Facebook, Snapchat) as the platform for discussion. Themes for videos that have been created thus far include "no one is entitled to sex", "drunk/high people cannot give consent" and "sharing intimate pictures without the sender's permission is wrong". Inclusivity was vital to the project, as such the videos portray individuals from diverse ethnicities, sexual orientations, and gender identities. Direct language was used as opposed to an analogy for SA, to limit chances of misinterpretation and to evoke the serious nature of the content. Videos will be displayed on TV monitors around campus and an evaluation will be conducted to measure impact.

Describe how this public health practice/program demonstrates innovation: Our approach to address the increased cases of SA on campus was targeted towards the behaviour of potential perpetrators rather than advocating for hypervigilance (i.e. not going out at night, buddy system, etc.). Our goal is to put the onus on those responsible for committing SA and to move towards creating a community that fosters accountability.

Describe how this practice/program informs change to future public health practice, research and/or policy development: A shift is needed in society's perception of SA and these videos provide an opportunity to reach a large target audience via a familiar platform that is both simple and direct.

111. Student Informed Recommendations for Reducing Sugary Beverage Consumption at Simon Fraser University - Marco Zenone

Co-authors: Jeremy Snyder, Kate Tairyan

Objectives: To describe sugary beverage consumption prevalence and consumption habits in undergraduate students at Simon Fraser University campuses (Surrey, Burnaby, & Vancouver); To determine if any Simon Fraser University policies or actions are contributing to increased consumption of sugary beverages among

undergraduate students; To describe the existing views of undergraduate students on sugary beverage consumption benefits and drawbacks; To understand the receptiveness of undergraduate students across the university community to various sugary beverage control strategies; and To identify feasible and effective opportunities to increase support of sugary beverage interventions at Simon Fraser University.

Methods: Data is being collected through the use of a comprehensive survey to identify students' sugary beverage consumption habits, perceptions, and receptiveness to numerous control strategies. The survey data is supplemented by focus groups to further examine themes. Both survey and focus group data will be used to formulate recommendations to initiate a first step in developing sugary beverage control strategies at Simon Fraser University.

Results: The results of this study are not yet available as the research is currently in progress. The study is expected to be completed by April 2018.

Conclusions: The conclusions of this study are not yet available as the research is currently in progress. The study is expected to be completed by April 2018.

Describe How This Research Demonstrates Innovation: There has been limited targeted efforts to reduce sugary beverage consumption at the structural level in Canadian universities and colleges. This study advocates for sugary beverage control in institutions that have historically not been focused upon.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This research will result in policy recommendations for Simon Fraser University to reduce sugary beverage consumption among their students. This research will additionally serve as a model for other post-secondary institutions to formulate their own recommendations and to label sugary beverages a student health and well-being priority at their respective institutions.

112. Doing Health: Conceptualizing the Experiences of Health among Postsecondary Students - Meghan Crouch

Co-authors: Kirsten Lee, Elena Neiterman

Background: Although the literature on conceptualizations of health is rich, it does not explain how individuals understand and experience health.

Objectives: The goal of this project was to explore how university students conceptualize and experience health in everyday life and examine:

1. How do postsecondary students talk about health?
2. How do they achieve health in everyday life?
3. What are the barriers that they experience in achieving health?

Methods: Upon receiving ethics clearance, qualitative interviews were conducted with 22 students studying in undergraduate and graduate programs in Ontario. The interviews were semi-structured and focused on individuals' perceptions and experiences of health in everyday life. With the permission of the participants, each interview was recorded and transcribed. The analysis followed Charmaz's guidelines, moving from line-by-line coding to a more focused analysis. The theme of health as praxis, or doing, emerged inductively.

Results: The participants talked about health as a holistic concept that incorporates physical and mental wellbeing. However, when asked about how they practice health, the participants mainly focused on the physical health and talked about their personal diet and exercise. They viewed health as an intentional activity, or doing. Doing health was perceived as hard work, requiring self-discipline and remarkable personal sacrifice. And while many participants admitted that structural and institutional barriers (e.g. financial difficulties or university schedule) had negative impacts on their health, they felt guilty for not pursuing health more eagerly.

Conclusions: Our participants saw health as something that people “do” rather than “have”. Discussing our findings, we reflect on the work of West and Zimmerman on “Doing Gender” and the discourse on health as a new morality.

Describe How This Research Demonstrates Innovation: We suggest health is a performance and question whether the moral discourses and work involved in “doing” health may undermine students’ wellbeing.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Our findings illuminate how postsecondary students view and “do” health which can inform health promotion initiatives targeting young people in postsecondary institutions.

113. La campagne de communication multimédia WIXX et la pratique d’activités physiques chez les jeunes Québécois - Ariane Bélanger-Gravel

Co-authors : Lise Gauvin, Marilie Laferté, Frédéric Therrien, François Lagarde

Objectifs : Examiner l’impact de la campagne de communication WIXX sur l’activité physique (AP) des préadolescents québécois.

Méthode : Cette étude a été menée selon un devis de type prétest-posttest (collectes transversales répétées) entre 2012 et 2016. Les données de 4001 jeunes âgés entre 9 et 13 ans, recrutés par génération aléatoire de numéros téléphoniques, ont été utilisées. L’exposition était le rappel publicitaire et la connaissance de WIXX : 1) exposition élevée [*rappel+connaissance*], 2) exposition modérée [*aucun rappel+connaissance ou rappel+aucune connaissance*] et 3) aucune exposition [*aucun rappel+aucune connaissance*]. Rencontrer les recommandations d’AP et avoir essayé de nouvelles APs étaient les comportements examinés. Les analyses ont été stratifiées par sexe et contrôlées pour différents facteurs confondants.

Résultats : Les garçons rapportant une exposition élevée (RC=1,2; IC95%: 0,9-1,6) et modérée (RC=1,1; 95%CI: 0,9-1,5) n’avaient pas une probabilité plus élevée de rencontrer les recommandations. Les filles ayant une exposition élevée avaient plus de chances de rencontrer les recommandations (RC=1,4; IC95%: 1,0 : 1,9), mais seule une tendance statistique demeurerait lorsque les analyses étaient ajustées (RC=1,3; IC95%: 1,0-1,8). Les filles rapportant une exposition élevée (RC=1,4; IC95%: 1,0-2,0) et modérée (RC=1,4; IC95%: 1,0-1,8) avaient des probabilités plus élevées d’avoir essayé une nouvelle AP.

Conclusions : La campagne semble avoir résonné positivement chez les filles: expérimentation plus importante de nouvelles activités et tendance favorable en termes de niveaux d’AP. Chez les garçons, la stratégie média, un plus faible taux de rappel et un phénomène de déplacement pourraient expliquer l’absence d’effet.

Décrire comment cette recherche innove : Cette étude est parmi les rares études ayant évalué l’impact d’une campagne de communication sur ce comportement chez les jeunes.

Décrire comment cette recherche guide les changements dans la recherche, l’élaboration de politiques et/ou les programmes de santé publique futurs : L’évaluation continue de la campagne WIXX a soutenu la prise de décisions des concepteurs et permettra d’alimenter les réflexions futures concernant ce mode d’intervention chez les jeunes, particulièrement chez les jeunes filles.

114. La diversité corporelle : Soutenir pour mieux intervenir - Karine Chamberland

Co-authors : Julie Gravel, Véronique Provencher, Vicky Drapeau

But du programme : Sensibiliser les intervenants jeunesse (camps d’été et maisons des jeunes) quant à l’impact qu’ils peuvent avoir auprès des jeunes qu’ils côtoient (rôle de modèle) et les inciter à intégrer les messages clés dans leurs actions quotidiennes.

Groupes cibles : Intervenants jeunesse (camps d’été et maisons des jeunes)

Activités : Pour les milieux des camps, une formation initiale a été donnée aux coordonnateurs/directeurs des camps afin de leur faire vivre l'atelier de réflexion. Les coordonnateurs ont été invités à refaire vivre l'atelier à leurs animateurs afin de leur permettre de s'approprier les messages clés.

Produits livrables : Un atelier de réflexion clé en main (document d'animation sous forme de fiches imprimées et plastifiées ou PDF) de même qu'une affiche sur les messages clés à retenir ont été développés, en français et en anglais.

Décrire comment cette pratique ou ce programme de santé publique innove : Le développement de cet atelier est issu d'une collaboration entre divers milieux : l'Université Laval, la Direction régionale de santé publique (Capitale-Nationale), la TIR-SHV Capitale-Nationale, ÉquiLibre et les milieux des camps, des maisons des jeunes et de la petite enfance. Une telle collaboration novatrice a permis de réconcilier les données probantes issues de la recherche, les préoccupations de santé publique et l'expertise spécialisée à la réalité « terrain ». La gratuité du matériel et la conception de l'atelier, de manière à ce qu'il puisse se vivre en seulement une heure et de manière autonome (sans l'aide d'aucune personne-ressource spécialisée sur le sujet) en font des conditions d'efficacité et des éléments facilitants et novateurs.

Décrire comment cette pratique ou ce programme guide les changements dans la pratique, la recherche ou l'élaboration de politiques de santé publique futurs : La thématique de l'image corporelle est perçue comme étant importante et pertinente à traiter dans le milieu des camps. À long terme, nous pensons que cet atelier de réflexion pourrait favoriser le développement d'une image corporelle saine chez les jeunes qui fréquentent les camps et permettre, par le développement d'une attitude d'ouverture et de respect à l'égard de la diversité corporelle, une diminution de la préoccupation excessive à l'égard du poids.

115. Promoting Healthy Body Images in Populations: Does body-related dissatisfaction influence reactions to Quebec's Charter for a Healthy and Diversified Body Image? - Farah Islam

Co-authors: Howard Steiger, Lise Gauvin

Background (Optional): There is considerable concern around the increasing prevalence of unhealthy eating behaviors and attitudes, disordered eating, and eating disorders. However, little is known regarding how individual body image and size influences the way in which populations understand, interpret, and react to initiatives designed to promote healthy body images.

Objectives: Using a population-based sample we examined the relationship between individual body-related dissatisfaction (BRD) and perception of the Québec Charter for a Healthy and Diverse Body Images (CHIC) and the moderating effects of BMI, age, and sex in this association.

Methods: Participants included 1738 Quebec adult respondents to an online panel survey. Multivariate logistic regression models were created to estimate odds ratios (OR) between BRD and level of favorability to the CHIC and to test potential interaction effects between one's BMI category, age, and sex with BRD. Analyses were for adjusted for household income, education, and immigration status.

Results: Analyses show that those with greater BRD, particularly those who want to lose weight, were more likely to be favorable towards the CHIC compared to those who have no BRD (OR=.380; CI: 0.234, 0.619). No moderating effects of BMI, age, or sex on the relationship between BRD and level of favorability for the CHIC were detected.

Conclusions: These findings indicate that current body image discrepancy substantially influences the uptake of a population-based initiative to promote healthy body image. A finding that requires replication and extension.

Describe how this research demonstrates innovation: This study presents one of the first efforts to examine the impact of individual risk factors on the uptake of health promotion initiatives.

Describe how this research informs change to future public health research, policy development and/or practice: This study shows that at-risk individuals may interpret a population-based intervention differently than the entire population and may impel practitioners to offer supplementary interventions for at-risk populations.

Data collection supported by a grant from the Secrétariat à la Condition Féminine of the Gouvernement du Québec.

116. Food preparation and purchase locations among young people in five major Canadian cities - Danielle Wiggers

Co-authors: Lana Vanderlee, Christine M. White, Jessica L. Reid, Leia Minaker, David Hammond

Objectives: To examine food preparation and purchase locations among young people in five major Canadian cities.

Methods: Respondents aged 16-30 were recruited from five Canadian cities (Edmonton, Halifax, Montreal, Toronto, and Vancouver) using in-person intercept sampling and completed an online survey (n=2,845 retained for analysis) as a part of the 2016 Canada Food Study. Descriptive statistics were used to summarize food preparation and purchase locations. A generalized linear model was used to examine correlates of having ready-to-eat meals/meals prepared outside the home.

Results: In total, 80% of meals were prepared in the home and 20% were prepared outside the home. Over one quarter of meals prepared in the home were ready-to-eat/box food. Food for meals prepared inside the home was purchased predominantly at grocery stores or supercenters while meals prepared outside the home were purchased predominantly at fast food/quick service/coffee shops. Respondents who were younger, identified as Aboriginal, had obesity, had no children, were part-time students, who lived in residence at school, university, or college, and who reported poorer cooking skills were more likely to report ready-to-eat meals/meals prepared outside the home.

Conclusions: The current findings indicate that almost half of meals consumed by youth and young adults consist of meals prepared outside the home, including ready-to-eat/box food.

Describe How This Research Demonstrates Innovation: Although there is strong consensus that the food environment and retail sources of food have an important influence on dietary intake, there is little research on food source and food preparation behaviours in Canada. It is critical to understand these behaviours, given that nutrition related chronic disease remains one of the leading causes of death in Canada.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Findings from this research add to the sparse research on food source among young people in Canada, and informs policies that highlight basic patterns of food preparation and eating, such as avoiding processed food and food prepared outside the home.

117. Nutrition Facts Table and Knowledge of the Percent Daily Value - Brittany Cormier

Co-authors: Lana Vanderlee, David Hammond

Objectives: Health Canada and industry partners launched a national Nutrition Fact Education Campaign to improve understanding and use of nutrient amounts presented in the nutrition facts table (NFT) on pre-packaged foods. The current study examined consumer use of the NFT and knowledge of the primary campaign message: "5% Daily Value or less is a little; and 15% Daily Value or more is a lot".

Methods: A total of 2,665 Canadians aged 16-30 completed online surveys as part of the 2016 Canada Food Study. Measures included demographic characteristics, NFT use, sources of nutrition information, and % Daily Value (%DV) knowledge corresponding to the Nutrition Facts Education Campaign.

Results: When purchasing food, 29.1% (n=777) of respondents consulted the NFT “always” or “most of the time”; 28.3% (n=756) looked for serving size information; and 15.1% (n=403) found the NFT “hard to understand” or “very hard to understand”. When asked what %DV Health Canada considers “a LITTLE” (correct response = ≤5%) and “a LOT” (correct response = ≥15%), 7.2% (n=191) and 4.3% (n=115) answered correctly, respectively. Only 4.0% (n=107) correctly responded to both questions. Females and younger respondents were more likely to report correct responses.

Conclusions: Although young Canadians report widespread use of NFTs, knowledge of the %DV message communicated in the national Nutrition Facts Education Campaign was extremely low, indicating little or no population-based impact. Overall, Canadians continue to struggle to interpret nutrient amounts presented in NFTs.

Describe How This Research Demonstrates Innovation: The current research evaluates the most prominent food labelling public education campaign in Canada. While previous research has found Canadians report increased use and understanding of NFTs and %DV after exposure to the campaign, the current study is the first to assess functional knowledge of the campaign messaging.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The findings indicate that consumers’ self-reported understanding of how to use nutrient numbers in food labels far exceeds their functional ability to use these numbers. The results support the need for simple, interpretative front-of-package labels.

118. Transforming Hospital Retail Food in Eastern Ontario - Laurie Dojeiji

Co-authors: Andra Taylor, Cholly Boland, Carolyn Brennan

Background: Hospitals have a unique opportunity to role model health-promoting practices.

Program Purpose: The Healthy Foods in Hospitals (Healthy Foods) program is creating supportive, healthy retail food environments in local hospitals. All 20 hospitals in the Champlain region of Eastern Ontario have committed to increasing healthy foods and beverages – and decreasing unhealthy ones – in cafeterias, vending machines, and volunteer and franchise operations.

Target Groups: The program primarily targets hospital staff, physicians and volunteers, as they represent the largest proportion of retail food customers; however, anyone walking through the doors of our hospitals – visitors, families, patients – has the potential to be impacted by the program.

Activities: Hospitals are actively implementing a set of progressively-phased (Bronze-Silver-Gold) nutrition standards across their retail food settings. The standards cover a broad range of food and beverage categories as well as stipulations for preparation methods, product placement, and provision of sodium and calorie information.

Deliverables: Signed commitment of hospital CEOs; Evidence-informed nutrition standards – and a working group of public health and hospital dietitians to ensure the standards remain grounded in evidence; A suite of support tools to help hospitals implement successfully; Engaged leaders across the region; and Demonstrated progress – 91% have achieved Bronze and 39% Silver (to date)

Describe how this public health practice/program demonstrates innovation: Innovation is reflected in the leadership of 20 independent institutions coming together to actively develop, support, and implement this program. The progressive nature of our standards also reflects innovation; we seeking to increase healthy offerings but also reduce/remove unhealthy ones. This approach reflects an understanding of the influential role of our surroundings in shaping our food decisions, and the need to move beyond education only to address the disease implications of unhealthy eating across our population.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Hospitals in Eastern Ontario are at the forefront of ‘practicing what we preach’ when it comes to

retail food provision. The Healthy Foods program is a unique, progressive and successful model for change that has the potential to expand.

119. The Costco Effect: Exploring outshopping in rural retail food environment activity space exposures - Catherine Mah

Co-author: Nathan Taylor

Background: Retail food environments influence food purchasing, dietary behaviours, and health outcomes. Accumulating evidence from urban settings suggests exposure to stores is not solely related to residential proximity, but a function of 'activity spaces': dynamic use of food environments, based on time, mobility, economic, and social factors. Limited literature exists on how rural environments and regional geography affect activity space exposures.

Objectives: Our aim was to explore measurement of food activity spaces in rural contexts.

Methods: As part of a larger intervention study (Healthy Corner Stores NL), we administered a cross-sectional household survey including a food frequency questionnaire in the pilot community in Oct 2015 (response rate 28%). Adult primary food shoppers (n=38) were interviewed in person about grocery shopping, travel outside the community, and sociodemographics. An index of outshopping (km/month) was calculated from survey responses and portion-adjusted nutrient and energy intake estimated using the Canadian Nutrient File 2015.

Results: Household outshopping ranged from 236 to 1,860 km/month (mean 797 km/month). Despite the 298km round trip by car, 24% of respondents reported shopping at Costco twice per month. Although interpretation is limited due to a small sample size, early analysis suggests a significant relationship between outshopping and dietary intake, with a greater proportion of energy from protein consumed among those with higher outshopping, and a greater proportion of energy from carbohydrates among those with lower outshopping.

Conclusions: Consistent with past research, we found rural populations may regularly travel substantial distances to access food. Rural food activity space measurement should take into account outshopping, for which travel patterns may differ substantially from urban contexts.

Describe How This Research Demonstrates Innovation: To our knowledge our research is the first to apply the retail management concept of outshopping to the nutrition environment and diet; we also expand upon the management research which has mainly focused on psychosocial determinants of outshopping.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Our study offers insights for retail food environment intervention development in rural communities, emerging areas of interest for public health nutrition practice and policy.

120. Let's F.A.C.E the facts on food insecurity: A strategy for mobilizing evidence on the cost of food - Meridith Sones

Co-author: Tania Morrison

Purpose: The B.C. Food Costing Dissemination Project aims to: (1) SHIFT the dialogue and debate on the problem of rising food costs towards affordability; (2) ALIGN local actors in food security around what works to reduce household food insecurity; (3) INSPIRE local actors to engage in poverty reduction and advocate for income-based policy solutions to food insecurity.

Target Groups: Local media; community food security groups; poverty reduction advocates; municipal governments.

Activities: Every two years, the Provincial Health Services Authority, in collaboration with B.C.'s regional health authorities, collects, analyzes, and reports data on the cost of food. The B.C. Food Costing Dissemination Project was initiated to mobilize food costing data and evidence on food insecurity through the development of a provincial strategy and communications toolkit. Guided by the Rapid Outcome Mapping Approach (ROMA), our methodology included a review of literature, key informant interviews, stakeholder mapping, audience personas, force field analysis, and the creation of an evaluation framework of desired outcomes. Key messages were tailored around the core call to action "Together, let's FACE (Frame, Assess, Connect, Engage) the facts on food insecurity".

Deliverables: This project will culminate with the publication of a toolkit in Spring 2018 to support knowledge dissemination, exchange, and application. Tools include targeted email campaigns, fact sheets, infographics, a media kit, slide deck, income scenarios, a template letter to municipal government, and a community event guide.

Describe how this public health practice/program demonstrates innovation: This project demonstrates an inventive, evidence-based strategy for contextualizing and mobilizing evidence on the cost of food and food insecurity.

Describe how this practice/program informs change to future public health practice, research and/or policy development: Policies to improve household income are the most effective way to lower food insecurity, yet the primary response in many jurisdictions continues to be through local initiatives like food banks and community gardens. This project translates knowledge on the cost of food in B.C. to inform coordinated policy action on household food insecurity that addresses its root cause—inadequate income.

121. Canadians' beverage consumption: Analyses of 2004 and 2015 national dietary intake data - David Hammond

Co-authors: Amanda Jones, Sharon Kirkpatrick

Background: Beverages contribute a significant proportion to Canadians' dietary intake. However, trends in the consumption of different types of beverages are not well understood.

Objectives: The purpose of this study was to examine Canadians' beverage consumption in 2004 and 2015.

Methods: The 2004 and 2015 Canadian Community Health Surveys (CCHS) – Nutrition are national cross-sectional surveys representative of those living in the provinces (ages 1 year and older; final sample sizes 2004: N=34,775; 2015: N=20,176). Standardized 24-hour dietary recalls were used to elicit all foods and beverages consumed by respondents on the previous day. Based on food codes assigned using the Canadian Nutrient File, all fluids consumed as beverages were grouped into seven categories and reported intake analyzed by volume (mL) and energy (kcal). T-tests were used to compare 2004 and 2015 reported intakes.

Results: In 2015, Canadians' per person per day mean beverage consumption was: all beverages 1,806mL (275kcal); 100% juice 74mL (34kcal); sugar-sweetened beverages (SSBs) 204mL (99kcal); diet or low calorie beverages 44mL (2kcal); plain milk 132mL (64kcal); plain water 867mL (0kcal); other unsweetened beverages, e.g. coffee, 364mL (6kcal); and alcoholic drinks 120mL (71kcal). The reported volumes of beverages consumed decreased ($p < 0.0001$) from 2004 to 2015 for: all beverages -9% (energy: -24%); 100% juice -40% (-37%); SSBs -25% (-19%); diet or low calorie -15% (-45%); plain milk -36% (-36%); other unsweetened -10% (-42%); and alcoholic -12% (energy: non-sig.). The volume of plain water increased by 11%.

Conclusions: Canadians reported consuming less juice, SSBs, and other beverages in 2015 compared to 2004, with an apparent shift toward plain water. However, the consumption of alcohol and sugary drinks remains high. The role of misreporting on these estimates is unknown.

Describe How This Research Demonstrates Innovation: Canada's recently released 2015 nutrition survey represents the first national dietary recall data since 2004, with this study providing the first known analyses of beverage consumption in 2015.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The findings are highly relevant to federal, provincial, and local policy options currently under review, including nutrition policies and alcohol control measures.

122. Shaping sleep-related behaviours to improve health outcomes in the population - Monica Augustyniak

Co-authors: Bria Barton, Grace Thomas, Elizabeth Alvarez

Background: Complex theories have been developed to explain human behaviour. Many have been applied in the context of sleep promotion, yet no study has been conducted to review the usefulness of these theories in explaining and influencing sleep-related behaviours at the population level.

Objectives: To identify theory-driven factors that can ameliorate sleep through behaviour change, and develop a model of sleep promotion that can be used by practitioners and researchers.

Methods: A scoping review was conducted. Electronic databases searched included: AgeLine, CINAHL, Embase, MEDLINE, and PsychINFO. Additional studies were identified through reference chaining. Studies were included for review if they provided reference for a theory of health behaviour in order to analyze a defined sleep behaviour. Information on the year, country of publication, study design, target population, targeted sleep behaviour, application of theory and main findings was extracted. Thematic analysis was subsequently performed.

Results: Forty-six studies were included for review. A variety of study designs were included. Most commonly targeted sleep behaviours were adherence to treatment and sleep hygiene. A comparison of identified theory-driven constructs is provided, along with emerging strategies to improve sleep in the population.

Conclusions: Studies are often unclear on the behaviours that must be targeted in order to improve sleep outcomes in the population. This poses a challenge in the design of effective non-pharmacological interventions that target sleep problems such as insomnia.

Describe How This Research Demonstrates Innovation: This is the first study to comprehensively review factors derived from theories of health behaviour with the purpose of advancing knowledge on sleep promotion.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Identified gaps provide indication of viable research questions necessary to advance knowledge in sleep research. Findings provide health promoters and health care practitioners with guidance for the development of behavioural strategies to improve sleep in the population.

123. Lessons from sodium and trans fat reduction efforts: Analysis of Canadian nutrition policy processes - Lesley James

Background: WHO has called upon countries to develop effective food and nutrition policies to respond to nutrition-related disease, with a particular focus on two major aspects – trans fats and sodium– due to their considerable role in population ill-health. Over the past 15 years, Canada has taken action on trans fat and sodium reduction mainly through the setting of voluntary agreements.

Objectives: Using the Advocacy Coalition Framework to analyse, this research aims to understand and explain the nutrition policy process in Canada, through the lens of trans fat and sodium policies.

Methods: Study used mixed methods to conduct a stakeholder analysis, assess stakeholder interests, power dynamics within and between coalitions, and contextual factors influencing the policy processes. Media analysis

investigated the types of narratives used to frame the nutrition issues in the public domain as related to the creation of consumer demand and political will.

Results: Specific factors were found to impede nutrition policy development including lack of consensus in evidence base and solutions, competing interests and resources, and consumer preferences. Factors promoting policy development included increased consumer and political awareness, clear evidence, media coverage, consumer demand, and champion civil society organizations.

Conclusions: Both trans fats and sodium reduction efforts were part of federal strategies to improve Canadian diets but had vastly different policy processes and outcomes based on the contextual factors and power dynamics which created distinctive policy measures.

Describe How This Research Demonstrates Innovation: This study fills gaps in the research arena on Canadian food politics and the nutrition making policy process in Canada.

Describe how this research informs change to future public health: This research has the potential to improve the policy making process around nutrition policy in Canada by increasing transparency in decision making. By assessing and analysing the policy process, power dynamics and policy actions, this research can provide public health nutrition practitioners and advocates with a better understanding of the complexities in policy making. Such insight can increase capacity in the public health community for stronger influence on nutrition policies.

124. Lessons learned through transformation: A case study of PHAC's multi-sectoral partnership initiative for chronic disease prevention - Lee Johnston

Co-authors: Diane Finegood

Background: In 2013, the Public Health Agency of Canada shifted from a hands-off model for funding chronic disease prevention activity to a collaborative and more complex approach with several conditions for applicants, including matched funding from private sources and pay-for-performance based on measurable outcomes.

Objectives: To gain a rich understanding of the opportunities and challenges experienced by Agency personnel brokering partnerships in this new model.

Methods: Qualitative case study with 12 semi-structured interviews and 3 focus groups involving Agency personnel working in this initiative. Data was transcribed and uploaded into NVivo for thematic analysis.

Results: Study participants described a wide variety of partnerships ranging from purely transactional with limited input from the matching funder, to highly collaborative endeavors involving extensive periods of project development that could last for as long as 2-3 years. Three key lessons emerged from their accounts: 1) there are significant benefits (both personal and organizational) to introducing flexible and adaptive processes to governmental public health programs; 2) when increasing program complexity, governmental organizations should anticipate that some organizations will lack the capacity to adapt in response; 3) blurring the lines between the partner/funder relationship may introduce tensions and power dynamics into collaborative efforts.

Conclusions: The results of this study demonstrate that while there are benefits to moving towards a more complex funding system involving the private sector, public health organizations should also consider potential challenges that might emerge from doing so.

Describe How This Research Demonstrates Innovation: This research captures important learnings about an innovative funding model that is one of the first of its kind in Canada.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Driven by austerity measures and the push to engage all sectors in chronic disease prevention, public health organizations are increasingly exploring options to leverage resources and expand their impact. Findings from this study will inform policy-makers about the benefits and challenges of similarly shifting their approach to funding solutions for complex problems.

125. Applying a systems approach to chronic disease prevention in communities: an Australian story - Therese Riley

Co-authors: Associate Professor Sonia Wutzke, Liza Hopkins, Maria Gomez, Seanna Davidson, Kathleen Conte, Dan Chamberlain, Jessica Jacob

Background: Australia, like much of the world, is facing an epidemic of chronic disease, yet much of this burden of chronic disease is preventable. At the same time public health commentators are urging researchers to move away from linear approaches to public health interventions towards a complex adaptive systems approach. But what does this look like in practice? In 2015 The Australian Prevention Partnership Centre (TAPPC) launched an ambitious system based initiative called Prevention Tracker. It is designed to work in partnership with local communities to describe, guide and monitor change efforts.

Objectives: To trial a suite of systemic inquiry processes and methods to: 1. Describe local chronic disease prevention systems; 2. Identify and model systemic problems in the prevention system; and 3. Guide and monitor local prevention efforts.

Methods: Prevention Tracker is working in four case study communities across Australia. We are applying mixed methods such as key informant interviews, program inventories and data synthesis workshops to describe local prevention systems and identify systemic problems. To guide and monitor change efforts we use group model building techniques to create causal loop models along with system action learning processes. This study will culminate in a cross case comparison.

Results: Results to date include: the description of local prevention systems, the identification of systemic problems, the design of causal loop models and the incorporation of system action learning processes in local prevention efforts.

Conclusions: Prevention Tracker is (so far) demonstrating that it is possible to apply system approaches to chronic disease prevention. But it is not without its challenges.

Describe How This Research Demonstrates Innovation: There are few real life examples of the application of systems approaches to chronic disease prevention. Prevention Tracker aims to make such a contribution.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Prevention tracker will detail what it takes to implement a systems approach; what works and what doesn't.

126. The Business of Sustainability: A Canadian Professional Association Case Study - Cheryl Armistead

Background: Anecdotal accounts suggest the Canadian *Plural Sector* (PLS) may be particularly impacted by changing economic, societal and environmental pillars of sustainability, but there is limited salient business research or literature. Professional Associations have unique challenges. They may operate in the *plural sector* for societal benefit, while their members work in the *public* sector, yet must pay fees to join so are like *private* sector customers. Health professionals' ethics, altruistic values and stigma may impede pragmatic business thinking essential to the Professional Association's viability.

Objectives: The study's goal was to gain insight into how select Canadian PLS members make sense of contemporary sustainability contexts. Key objectives were to characterize perceptions, issues and drivers influencing sustainability as viewed by a Professional Association.

Methods: The research involved an exploratory, qualitative case study of one Canadian Health Professional Association. Selected participants represented high value information and position diversity. Narratives collected in semi-structured interviews were transcribed, coded via NVivo software, then analyzed within an interpretivist lens to generate shared and differing themes.

Results: Findings revealed unanimous view of the need for change in sustainability thinking; and that economical and societal pillars have most impact. Shared themes included maintaining relevance, the membership model as core revenue source, membership attributes, governance, and desire for a compelling value proposition. Differing views centred on the imperative of business thinking and new private-plural partnerships.

Conclusions: Professional Association viability is an essential contributor to a healthy society. Traditional sustainability strategies provide merit and short-term stability, yet may limit access to contemporary opportunities. The *Professional Association Sustainability Framework* (PASF) provides a direction for sustainability given current trends. The PASF depicts an evolution from current emphasis on *relevance*, *resistance* and *reinforcing* existing strategies, towards *resonance* and *resilience*.

Describe How This Research Demonstrates Innovation: This is an original study about Canadian PLS sustainability in the unique context of a Professional Association.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study may help Professional Associations recognize sustainability opportunities and sets new directions for research.

127. A pilot study to explore the cost-benefit, cost-effectiveness, and employee well-being associated with the use of fitness trackers as an intervention in the workplace (hospital) - Kelly-Jo Gillis

Co-authors: Kathryn Sinden, Gordon Porter, Leanne Baird, Sara Chow, Cathy Paroschy Harris, Katherine Mayer, Erin Pearson, Shalyn Littlefield

Objectives: The primary objective of this pilot study is to explore the cost-benefit, cost-effectiveness, and employee well-being associated with the use of a fitness tracker (Fitbit®) as an exercise intervention in the workplace, for employees in the healthcare setting.

Methods: The pilot study included a 90-day intervention period in which participants were required to wear a Fitbit® 24 hours a day. The research included a pretest-posttest design with repeated measures involving three intervention groups stratified with an equal distribution of participants based on baseline activity level. A number of physical (e.g., blood pressure, weight) and psychological (e.g., physical activity self-efficacy, quality of life) measures were collected at three time-points (pre-mid-and post-intervention).

Results: Thirty participants were enrolled and are expected to complete the intervention in December, 2017. Data analysis for the dependent measures is ongoing. Results will be used to inform the design of a subsequent larger, case-controlled study analyzing the efficiency of using fitness trackers as a form of physical activity intervention in the workplace.

Conclusions: The use of fitness trackers in the workplace shows promise as a health promotion intervention for employees. Results will be discussed in the context of enhancing health from both individual and organizational perspectives.

Describe How This Research Demonstrates Innovation: Wearable technology, such as fitness trackers, has become increasingly popular among people trying to motivate themselves to maintain an active lifestyle. By using this technology in the workplace, this research will determine if this low-cost intervention can provide health, wellness and/or economic benefits to employees at Thunder Bay Regional Health Sciences Centre and similar organizations across the country.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: A healthier organization contributes to happier, more productive employees, while reducing costs associated with illness, injury, and absenteeism. The results of this study are anticipated to inform and support institutional decision makers wanting to invest in an effective way of promoting physical activity amongst employees.

128. How to Use Competency Frameworks - Doina Malai

Co-author: Claire Laliberté

Background: In order to promote the effective implementation of public health programs, it is essential to strengthen professionals' competencies by fully exploiting the potential of competency frameworks. To date, the *Institut national de santé publique du Québec* [INSPQ - Quebec's Public Health Institute] has produced five such frameworks, for: environmental health; occupational health; prevention and health promotion; cross-cutting functions; and population responsibility. These frameworks set out the competencies specific to a field or organization based on the identification of standard work situations and associated knowledge, know-how and soft skills.

Program Purpose: This presentation proposes to explore possible uses of a framework from a concrete case in environmental health. Uses for organizational purposes will be specifically addressed.

Target Groups: Professionals, physicians and managers working in public health as well as the next generation.

Activities: Two activities can result from the creation of a framework: a needs analysis and a competencies development plan that meets the priorities of professionals and the organization.

Deliverables: Based on the example of environmental health, the following products were developed: in-person training on risk communication and the application of the risk management framework for health, a webinar on how to prepare for the *Bureau d'audiences publiques sur l'environnement* [a public environmental review board], and the creation of a community of practice.

Describe how this public health practice/program demonstrates innovation: Based on emblematic professional situations, the competency development activities linked to the frameworks are rooted in practice. Therefore, a competency development plan based on a needs assessment facilitates both priority-setting and activities that promote the mobilization of all types of knowledge: knowledge, know-how and attitudes.

Describe how this practice/program informs change to future public health practice, research and/or policy development: This practice proposes a scientific and participative approach to better meet the actual training needs of current and the next generation of public health professionals, in the current and constantly evolving context.

129. Are Health Equity Impact Assessments the answer? - Michelle Kilborn

Co-author: Tacie McNeil

Background: There has been increasing government and health sector support for addressing health inequities and an increase in the use of health equity impact assessments (HEIA) internationally over the past twenty years. Within Alberta Health Services there is renewed and growing interest in promoting health equity, thus work has been initiated to explore the development of HEIA processes and resources.

Objectives: To provide decision-making information that is critical to the success of the development of HEIA processes and resources to help relevant AHS leadership and staff embed a health equity lens into their planning, development, implementation and evaluation activities.

Methods: Methodology consistent with the recommendations of the *Integrated Planning and Evaluation Framework* guidelines were used to conduct this analysis.

Results: There are many tools and approaches to HEIA, and while there is limited research on the effectiveness of HEIAs in improving population health outcomes, impact on decision-making has been more widely evaluated. Context specific themes included: health equity is more complex than implementing one tool; assess organizational capacity; and ensure evaluation processes are attached to health equity initiatives.

Conclusions: HEIA processes should be aligned broader health equity goals and embedded into planning processes already occurring in the organization. Research on success factors should inform development of processes and content of any HEIA. Include equity metrics as a cross-cutting part of strategic and operational efforts.

Describe How This Research Demonstrates Innovation: There has been very little analysis of HEIA tools and processes across Canada. Sharing the results of AHS' analysis provides insights into the effectiveness of current practices for addressing health inequities and suggests areas for improvement.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This analysis offers valuable information needed for organizations to transform how they promote and approach health equity in their work. A better understanding of HEIA research, organizational and systemic barriers, as well as success factors is critical for future public health policy and practice.

130. Health Inequity in Circulatory Disease Mortality in British Columbia (BC), 2009-2013 - Diana Kao

Co-authors: Drona Rasali, Trish Hunt

Objectives: This study aims to investigate health inequity in circulatory disease mortality rate by geographic, demographic and socioeconomic dimensions in BC.

Methods: BC's Vital Statistics data for 2009-2013 period were analyzed using SAS 9.4. Social and Material Deprivation Indices quintile at the Census Dissemination Areas (DAs) were derived from 2011 *CensusPlus*. Age-standardized circulatory disease mortality rates were calculated by geographic areas, sex, social and material deprivation indices, education, employment, and income using 2011 Canadian Standard population.

Results: Overall age-standardized rate for circulatory mortality was 249.4 deaths per 100,000 population, which varied across a local health areas. Males had a significantly higher mortality rate (297.8 deaths per 100,000 population, 95% CI: 293.9, 301.8) than females (208.5 deaths per 100,000 population, 95% CI: 205.8, 211.2). The rate for most socially deprived quintile, 161.5 deaths per 100,000 (95% CI: 158.7, 164.2), was significantly higher than those of other quintiles. The most materially deprived quintile also had a significantly higher mortality rate (153.2 deaths per 100,000 population, 95% CI: 150.3, 156.2). Those with a post-secondary degree (152.9, 95% CI: 150.7, 155.2) had a significantly lower mortality rate than those who did not. The group with highest employment rate had a significantly lower mortality rate (152.1 deaths per 100,000 population, 95% CI: 149, 155.2) than that of lowest employment rate group (138.4 deaths per 100,000 population, 95% CI: 135.5, 141.3). Mortality rate declined with the income increased, as the lowest and highest income quintiles had mortality rates of 159.9 deaths per 100,000 population (95% CI: 156.7, 163.2), and 140.7 deaths per 100,000 population (95% CI: 137.7, 143.6), respectively.

Conclusions: Age-standardized circulatory mortality rate is inversely associated with both deprivation scores, education, employment, and income.

Describe How This Research Demonstrates Innovation: For the first time in BC, social and material deprivation indices scores at DA level demonstrated disparity in chronic disease mortality rates between the most deprived and least deprived populations.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This study informs health policies aiming to reduce circulatory disease mortality rate among the most vulnerable populations through prevention strategies.

131. Trends in Socioeconomic Inequalities in Ischemic Heart Disease, 2000-2012 - Brendan Smith

Co-authors: Chantel Ramraj, Peter Smith, Hong Chen, Heather Manson, Jack Tu, Laura Rosella

Background: Low socioeconomic position (SEP) is an important risk factor for ischemic heart disease (IHD). Current surveillance methods use area-based SEP measures to monitor trends in socioeconomic inequalities in IHD. The extent to which these methods underestimate individual-level socioeconomic inequalities in IHD is unclear.

Objectives: To estimate and compare socioeconomic trends in IHD by household income and material deprivation in Ontario from 2000 to 2012.

Methods: A population-based, pooled cross-sectional study was conducted using data from the Ontario respondents of 6 Canadian Community Health Survey (CCHS) cycles (2000/01-2011/12) linked to the Discharge Abstract Database (n= 119,529 over 35 years of age, 55% female). Prevalent IHD included an IHD hospitalization within 10 years, measured across quintiles of equivalized household income and the Ontario Marginalization Index's material deprivation scale. Relative-weighted Poisson regression models were used to estimate IHD rates adjusted for age, sex, ethnicity, marital status and immigration. Socioeconomic inequalities in IHD were estimated using the slope index of inequality (SII) and relative index of inequality (RII).

Results: Socioeconomic inequalities in IHD were observed across income and material deprivation quintiles. Adjusted IHD rates were 345 per 10,000 (95%CI: 207,483) higher at the bottom of the income distribution than the top in 2000/01, decreasing to 167 per 10,000 (95%CI: 40,293) by 2011/12. These differences represented 2.52 (95%CI: 1.58,3.46) times higher IHD rates in 2000/01, an increased that remained in 2011/12 (RII: 1.80, 95%CI: 0.97,2.63). A similar pattern of IHD rates was observed across material deprivation quintiles, however with smaller inequalities.

Conclusions: Consistent socioeconomic inequalities in IHD were observed in Ontario, with an absolute reduction between 2000 and 2012. Area-level material deprivation underestimated individual-level socioeconomic inequalities in IHD.

Describe How This Research Demonstrates Innovation: Data linkage was used to overcome a common limitation to test an assumption regarding measurement of socioeconomic inequalities in IHD.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Our study findings inform efforts to monitor trends, identify targets and evaluate population health interventions that aim to reduce socioeconomic inequalities in IHD.

132. Meeting End-of-Life Needs of Older gbMSM with an Inverted SES Model of Health Promotion - Kirk Furlotte

Background: Older gay, bisexual, and other men who have sex with men (gbMSM) face unique challenges in relation to end-of-life (EOL) care. In addition to specific age-related health issues, gbMSM face obstacles in the access to and uptake of healthcare services due to the discrimination and stigma associated with homophobia and heterosexism.

Objectives: The primary research question for this study was: "What are EOL care experiences and expectations of older gbMSM in Canada?" The barriers and facilitators older gbMSM face in EOL planning and where those barriers/facilitators fit within a social ecological (SES) model were also explored.

Methods: Focus groups were held at research sites across Canada with older gbMSM as part of the *Fostering End-of-Life Conversations, Community and Care among LGBT Older Adults* study in 2014/2015. Each focus group was facilitated by two members of the research team using an established set of semi-structured questions.

Results: Focus groups were held with 40 old gbMSM in five sites (Vancouver, Edmonton, Toronto, Montreal, and Halifax). Transcripts were thematically analyzed guided by descriptive qualitative methodology; major themes and issues were mapped to an inverted SES model for health promotion.

Conclusions: Older gbMSM face exclusion and further marginalization from their own communities, the healthcare community, and even their own community of care. Recognizing the unique needs of this population can help reduce barriers to healthcare access and reduce the healthcare inequities faced by this marginalized group.

Describe How This Research Demonstrates Innovation: Limited research has been conducted on the holistic approach on EOL for older gbMSM from a Canadian perspective. Little research has focused on health promotion and has not mapped the needs of older gbMSM to a model that would help spur solutions to their identified issues.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: The inverted SES model focuses on policy first and works out to the individual. By hearing first voice of the affected, marginalized population, policies and procedures can be adapted or updated to address their needs directly.

133. The importance of analyzing gender in government health and social policies: heart disease and stroke implications - Harsha Kasi Vishwanathan

Issue and policy research: Heart disease and stroke are leading causes of death in Canada for both men and women. As of 2016, heart disease was the leading cause of premature mortality among women in Canada. Research has linked socioeconomic status to poor heart and brain health, and women are affected by different social, economic and health factors as it relates to heart and brain health. As such, gender-based analysis has important implications for many health and social policies which have an impact on heart and brain health.

Analysis: We considered gender implications on policies and programs for access to medicines, tobacco control, food security and nutrition. Heart & Stroke also created calls to action based on our policy analysis of measures that need to be undertaken to improve women's heart and brain health.

Describe the current status of the policy: The Canadian government committed to enforcing Gender-based Analysis + (GBA+) in 1995. A 2015 Auditor General report found that the framework was only implemented in some federal departments and agencies.

Future implications: There are gender differences in certain risk factors for heart disease and stroke; women use tobacco for different reasons than men, and the intersection of gender and socioeconomic status can also influence access to medicines, healthcare and nutritious food, all which have implications for cardiovascular and cerebrovascular health. Gender analysis could expand policies in these areas that would be inclusive of gender differences.

Describe how this policy alternative demonstrates innovation: While the Canadian government has committed to enforcing GBA+ since 1995, the full implementation across branches would be innovative in addressing gender and systems implications of chronic disease.

Describe how this policy alternative informs change to future public health policy development, practice and/or research: Incorporating widespread use of gender-based analysis in all government departments and agencies will account for gender-based influences and impacts on government policy decisions, legislation, and programming initiatives.

134. Understanding women's trajectories through homelessness - Katherine Maurer

Co-authors: Mireille Guerrier, Marie-Christine Boulianne

Background: Homelessness is an important public health concern. Much of the research on homelessness has focused either on male-only samples or on the experiences of individuals with histories of mental illness.

Objectives: Our study sought to explore the experiences of a natural sample of women participating in transitional shelter services in Montreal.

Methods: We analyzed administrative data from 105 women who used transitional shelter services over a 12-month period. We also conducted 33 semi-structured interviews on service usage, homelessness histories and well-being. Participant median age was 43 years; 30% were born outside of Canada; 55% were Francophone; 8% identified as Aboriginal; and 32% reported experiencing homelessness for more than one year.

Results: Using stepwise regression, we found that older and less educated women were more likely to have overall longer durations of shelter stays. Limited transportation access and involvement in legal proceedings also increased length of stay. In contrast, women who reported currently receiving mental health services or who had greater community connections were found to have shorter stays.

Conclusions: While our study is exploratory, we found that similar to research with men, aging and lack of education are strongly associated with length of shelter use. Also as seen in other research engagement with services and community connections are important to foster, as they are associated with shorter shelter stays.

Describe How This Research Demonstrates Innovation: Despite increasing shelter use, the complexity and diversity of female homelessness, there is limited research exploring their experiences. However, policies to address homelessness rarely accommodate differing needs of women (Bellot, 2016). Our study is innovative in the focus on the needs and challenges of female homelessness.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Results from this research will help us to improve our service provision for female shelter users and we will share this knowledge among other shelters and policy makers. We aim to contribute to the implementation of local, regional and national policies and programming better adapted to the multiple realities of female homelessness.

135. L'angle citoyen de la lutte à la facturation en santé : agir politiquement sur un enjeu d'accès et d'équité en santé - Geneviève McCready

Contexte : La Loi canadienne sur la santé défend l'universalité et l'accessibilité des soins de santé, indépendamment de la capacité de payer des canadiens. Cependant, la privatisation des services de santé de première ligne se place en affront à ces principes. À la Clinique communautaire de Pointe-Saint-Charles à Montréal, les citoyens ont rapporté au début des années 2010 s'être fait facturé pour des soins, facturation qui posait obstacle à l'accès aux soins. Pourtant, la facturation de soins directement aux usagers lors de consultation en cabinet médical demeurait non documentée.

But du programme : Le comité de lutte en santé a créé un registre pour documenter et démontrer l'ampleur de la facturation en santé. Cet outil a ensuite servi de levier dans l'élaboration d'un rapport de force avec les décideurs politiques.

Groupes cibles : Tous les usagers des services de première ligne, en particulier ceux à faible revenu.

Activités : Création, publicisation et compilation d'un registre de témoignages; Enquête sur l'affichage dans 40 cliniques médicales; Interventions médiatiques; Rencontres avec des acteurs politiques; et Interventions d'éducation populaire

Produits livrables : Les rapports de compilation des registres; Les résultats de l'enquête dans les cliniques médicales, révélant des inégalités sociales associées à l'accès aux soins de première ligne; et Le récit chronologique des interventions et des événements entourant la réglementation des frais accessoires

Décrire comment cette pratique ou ce programme de santé publique innove : Ce projet innove par le développement d'un outil permettant aux citoyens de documenter une situation inéquitable et agir politiquement.

Décrire comment cette pratique ou ce programme guide les changements dans la pratique, la recherche ou l'élaboration de politiques de santé publique futurs : L'élaboration d'outils de documentation peu coûteux et simples, en partenariat avec les citoyens, constitue un moyen pertinent pouvant accroître la légitimité et la crédibilité d'une lutte politique face à un enjeu de santé publique.

136. Bien communiquer, ça fait aussi partie des soins! - Marie-Michèle Mantha

Co-auteurs : Valérie Lahaie, Olivier Rey, Audrey-Maude Mercier, Amélie-Nina Setto, Caroline Lavoie

But du programme : Faciliter le dialogue entre les équipes de soins et les patients grâce à une stratégie de précaution universelle en matière de communication simple et adaptée. Cette approche permet d'éviter la stigmatisation de groupes vulnérables sans compromettre la qualité de l'information transmise aux patients les plus compétents en littératie en santé.

Groupes cibles : Les patients et leurs proches, les professionnels cliniques

Activités : Démarche systématique unique de production et de mise à jour de fiches éducatives, appelées Fiches santé. Dans un format court, l'information est vulgarisée, comporte des messages-clés et des visuels qui répondent aux principales questions des patients; Évaluation de la lisibilité des outils informatifs, éducatifs ou de recherche et leur adaptation; et Sensibilisation à l'enjeu de la littératie en santé et aux stratégies à intégrer à l'oral lors d'une consultation entre professionnel et patient.

Produits livrables : Plus de 350 fiches santé portant sur une maladie, un examen, un traitement, un soin à faire ou un comportement de santé à adopter sont accessibles gratuitement via le site Web du CHUM (chumontreal.qc.ca/votresante).

Décrire comment cette pratique ou ce programme de santé publique innove : Au CHUM, il s'agit de la première pratique clinique préventive standardisée dans le domaine de la communication écrite destinée aux patients et à leurs proches à être l'objet d'une politique organisationnelle. Aussi, le programme permet à l'organisation de respecter six des dix meilleures pratiques en littératie identifiées par Brach et al. (2012).

Décrire comment cette pratique ou ce programme guide les changements dans la pratique, la recherche ou l'élaboration de politiques de santé publique futurs : D'autres organisations pourraient s'inspirer de la démarche adoptée et des outils créés dans le cadre de ce programme afin d'améliorer leurs pratiques communicationnelles à la santé. Notamment en considérant ces trois éléments :

1. Le travail en collaboration interdisciplinaire des professionnels
2. L'intégration de patients dans la démarche et la formation d'un comité de patients relecteurs
3. La présence d'une équipe d'experts en communication écrite et visuelle dédiée à l'accompagnement des professionnels

137. Barrières et éléments facilitant les capacités en évaluation des organismes communautaires du Québec - David Buetti

Contexte : les capacités en évaluation comprennent l'ensemble des procédures, des ressources, des politiques et des mécanismes qui créent et appuient une forme de culture évaluative dans les organisations.

Objectifs : cette présentation vise à rapporter les barrières et les éléments qui peuvent faciliter le renforcement des capacités en évaluation dans les organismes communautaires québécois (OCQs), des acteurs importants du domaine social.

Méthode : une recherche documentaire rigoureuse et structurée a été réalisée à partir des articles publiés dans six revues scientifiques spécialisées en évaluation. Les publications ayant satisfait aux critères de sélection (n=21) ont été analysées par le cadre conceptuel de Bourgeois et Cousins (2013) qui précisent les dimensions organisationnelles qui influencent les capacités en évaluation.

Résultats : la recherche documentaire précise un nombre important de barrières organisationnelles entourant les six dimensions suivantes : 1- ressources humaines; 2- ressources organisationnelles; 3- capacité à planifier des activités en matière d'évaluation; 4- connaissance de l'évaluation; 5- intégration à la prise de décision; 6- avantages liés à l'apprentissage de l'évaluation.

Conclusions : les résultats montrent l'importance d'un soutien intensif et à faible coût pour renforcer les capacités en évaluations des OCQs. Le soutien devrait viser les compétences, les attitudes et les connaissances en évaluation des travailleurs communautaires et du Conseil d'administration.

Décrire comment cette recherche innove : encore peu d'écrits scientifiques s'intéressent aux capacités en évaluation, spécifiquement dans le milieu communautaire québécois. Cette recherche documente les barrières et éléments facilitant les capacités à produire et à utiliser les évaluations dans ces organisations.

Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs : les résultats de cette recherche sont d'intérêt pour les praticiens et les chercheurs qui planifient développer des initiatives ou des stratégies pour soutenir les capacités en évaluation dans les OCQs.

138. Making climate change meaningful: A narrative model for engagement - Rachel Malena-Chan

Background: Climate change threatens public health in the 21st century. It is exacerbating health inequities. Leading experts maintain that climate change mitigation and adaptation require action at the population-level, but as the last 25 years indicate, knowledge alone does not produce a meaningful response to climate change.

Objectives: This Master's study explores climate change engagement through a narrative lens to gain a deeper understanding of the barriers to population-level mobilization. How does narrative mediate the relationship between knowledge and action, particularly amongst those who know about climate change and who care about equity and justice?

Methods: This qualitative study employed interpretive methods to explore personal climate change narratives (n=10). Individual interviews were conducted with young social change leaders in Saskatoon, Saskatchewan (20-40 years). Using Ganz's storytelling framework, participant climate change narratives were explored structurally and thematically.

Results: Knowledge of climate change and personal motivation to take action do not preclude narrative dissonance, which hinders a meaningful personal response. My study uncovered four key moments within participant narratives where emotional, social, and political dynamics mediate mobilization: (1) moving from knowledge to a sense of agency, (2) from agency to a sense of responsibility, (3) from responsibility to a sense of capacity, and (4) from capacity to a sense of activation.

Conclusions: Narrative dissonance is a barrier to mobilizing climate change action. Dissonance is fueled by social and emotional norms, and is reproduced by political economic conditions. Structural findings provide a framework for climate change engagement, and thematic findings uncover multiple opportunities for population health.

Describe How This Research Demonstrates Innovation: This study draws upon community health theory, social movement practice, environmental education literature, narrative methods, and community-based expertise to explore the emotional, social, and political dimensions of climate change engagement.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Public health must confront the barriers to population mobilization and work to shape public narratives. My study explores how perceptions of global health problems mediate action, and it aims to facilitate meaningful, equity-based engagement.

139. Age-friendly, Veteran-friendly Communities - Linda MacLean

Background: In 2006, the WHO launched the *Global Age-Friendly Cities Project*, which “brought together cities from around the world that were interested in supporting healthy aging by becoming more age-friendly”. In 2007, federal/provincial/territorial governments in Canada adopted this model, focusing on rural and remote communities with populations under 5,000, and by 2016, ten provinces had created programs supporting age-friendly communities.

Issue/policy research: While Veterans are younger, on average, than the general population, they are aging. Consequently, Veterans would benefit from age-friendly changes in built environments – including making public spaces, transportation, and housing more accessible.

Analysis: Although a majority of Veterans enjoy good physical health, they are two times more likely than those in the general population to report some degree of disability and three times more likely to report a high degree of disability. Communities that are more accessible for seniors would also be more accessible for Veterans of all ages who are living with disabilities. Many Veterans require informal care as they age and often care is provided by another senior.

Describe the current status of the policy: Policies/programs that support aging-in-place, such as the Veterans Independence Program and Veterans caregiver benefits, contribute positively to the physical and mental health of senior Veterans and their caregivers.

Future implications: Canadians are living longer, in part as a result of public health & safety measures to prevent illness, and medical advances in early diagnosis and treatment. The senior population is also growing, with projections suggesting the number of Canadians 65 years or older could reach 9.8 million in 2036. Demand for accessible housing, transportation and public spaces is increasing.

Describe how this policy alternative demonstrates innovation: Veterans, like seniors, have a lot to offer communities. By welcoming Veterans into communities, their military-to-civilian transition is smoother and their well-being is improved.

Describe how this policy alternative informs change to future public health policy development, practice and/or research: Age-friendly, Veteran-friendly communities support Canada’s aging population and improve the well-being of seniors and Veterans, providing the built environment for them to be integrated into the community as they age-in-place.

140. Assessing well testing behaviours and determinants among Private Well Owners in Southern Ontario (2012-2016) - Shahryar Qayyum

Co-authors: Anna Majury, Harriet Richardson, Paul Hynds

Background (Optional): Four million Canadians use private wells for daily water consumption, however well testing rates are on the decline, resulting in an increased risk of waterborne gastrointestinal illness. Limited research exists that explores the determinants affecting testing.

Objectives: [1] Investigate the prevalence of fecal indicator organisms (FIOs) in Southern Ontario groundwater over a 5 year period (2012-2016) and the association between groundwater quality and spatially derived socioeconomic status (SES), [2] Explore the relationship between SES and well owner testing behaviours in Southern Ontario (2012-2016), within the context of demographic, geographic and climatic variables, and [3] Identify predictors of repeated water quality testing among well owners in Southern Ontario over the same period.

Methods: The Ontario Marginalization Index (ON-Marg) will be used as a proxy measure of SES. Analysis will employ a large integrated dataset comprising of the Well Testing Information System and the Well Water Information System, both of which are maintained by the provincial government of Ontario. Bivariate and multivariate statistical analyses will be employed.

Results: Research is currently underway, with preliminary analysis indicating that 114 820 wells were tested during the study period, with the majority located in low marginalized areas. 66.72% of wells were tested more than once during the study period and most were tested during the spring and summer seasons. 69.68% of all wells are located either in or near urban areas.

Conclusions: The results of this study will provide information on the determinants of well water testing and repeated testing.

Describe How This Research Demonstrates Innovation: To the authors knowledge, this is the first study to employ a very large (>100,000 wells) dataset to investigate the association between well water testing, marginalization, and location.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Study results will be entirely novel and due to the associated scale are likely to be internationally transferable. Findings will provide evidence for public health units to more appropriately focus ongoing and future communication and engagement strategies.

141. Water testing for the people: Implementing a portable device to monitor microbial hazards in recreational water amongst citizen scientists - Sydney Rudko

Co-authors: Ronald Reimink, Kelsey Froelich, Patrick Hanington

Background: Citizen science is a participatory research framework that recruits citizens to conduct monitoring projects in their communities.

Objectives: This study applies a citizen scientist methodology to public health monitoring of recreational beaches. We trained citizen sciences to use a point-of-use device to monitor the microbial quality of recreational beaches. We assessed the accuracy of the method in users' hands quantitatively, and followed up with users to capture their experiences with the technology.

Methods: Portable monitoring was conducted using a method called quantitative polymerase chain reaction (qPCR), which detects pathogen DNA. Users were trained in person, given an instructional video, and a written protocol. Samples collected by users were split in half, and run by both the users and by scientists to assess users accuracy. Users were interviewed about their perceptions of the technology.

Results: In 2017, users analyzed 350 water samples. Of these water samples, 64.8% fell within a 95% confidence interval of scientists' samples, and 92% of samples fell within a 90% confidence interval of scientists' samples. Water turbidity, power requirements of the device, and challenges in using the software were identified as barriers in using the technology.

Conclusions: Citizen scientists can perform sophisticated diagnostic assays generate results that approximate expert data. Improving aspects of the technology may improve accuracy of the results. As such, we will attempt to alleviate some of the challenges identified by users in the upcoming 2018 field season.

Describe How This Research Demonstrates Innovation: Local communities often feel alienated by agencies that close beaches. This research empowers local communities to monitor their own water, giving them the knowledge and resources to work with regulators to manage this important resource.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: Public health microbiology labs do not typically recruit non-scientists to engage in monitoring or decision-making. This research helps to dismiss concerns of data accuracy from citizen scientists.

142. Assessing the micro-scale environment using Google Street View: The Virtual Systematic Tool for Evaluating Pedestrian Streetscapes (Virtual-STEPS) - Madeleine Steinmetz-Wood

Co-authors: Kabisha Velauthapillai, Grace O'Brien, Nancy Ross

Background: Findings on how neighborhood environments contribute to active living can sometimes be difficult for politicians and planners to apply to existing settings, as it can require substantial reconfiguration of the neighborhood layout. Altering, micro-scale features of neighborhoods (e.g., benches, sidewalks, trees, crossing signals, walking paths, and cues of social disorganization or crime) is a relatively cost-effective and efficient method of creating environments that are conducive to active living. There is a need for tools that can reliably virtually audit micro-scale environments.

Objectives: This study examined the reliability of the Virtual Systematic Tool for Evaluating Pedestrian Streetscapes (Virtual-STEPS), a Google Street View based auditing tool specifically designed to remotely evaluate micro-scale characteristics of the built environment.

Methods: Virtual audits using Google Street View of 3,544 randomly selected street segments and 60 field audits were conducted by two raters in Canada's two largest cities, Toronto and Montreal, in the summer of 2017. Inter-rater reliability and the concordance between the Google Street view audits and field audits was assessed using percentage agreement and the kappa statistic.

Results: The results revealed that percentage agreement between virtual and field audits and for inter-rater agreement was 80% or more for the majority of items included in the Virtual-STEPS tool. Kappa statistics indicated a high reliability between virtual and field audits (range: 0.357-1) and high inter-rater reliability (range: 0.314-1).

Conclusions: Our findings suggest that the Virtual-STEPS tool is a reliable tool for assessing the micro-scale environment of neighborhoods.

Describe How This Research Demonstrates Innovation: This is the first virtual auditing tool that was specifically designed to remotely evaluate micro-scale environments.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or Practice: This tool can help researchers and public health practitioners to identify the elements of the built environment that can be modified at relatively low cost to promote the mobility of vulnerable populations such as the elderly and the physically impaired; populations that disproportionately bear the burden associated with poor urban design.

143. Le Téléphone santé : une technologie prometteuse pour joindre les personnes vulnérables à la chaleur et au smog - Isabelle Tardif

Co-authors: Marc-André Lemieux, Pierre Gosselin, M. Kaddour Mehri

Contexte: Les vagues de chaleur et le smog occasionnent des malaises et des décès, particulièrement chez les personnes de 65 ans et plus et les malades chroniques. Il est opportun de mettre à l'essai les technologies de communication d'urgence pour diffuser des conseils santé lors de ces événements.

Objectifs : Implanter et évaluer un automate d'appel destiné à des personnes vulnérables à la chaleur et au smog.

Méthode : Étude cas-témoin menée auprès de 1 328 résidents de l'agglomération de Longueuil, âgés de 65 ans et plus ou souffrant d'une maladie chronique. La collecte de donnée a été réalisée à l'aide de six entrevues téléphoniques. Les échelles de mesures étaient principalement oui/non et Likert 1 à 5. Des tests de différences de moyennes et de proportions, au seuil de 0,05, ont été utilisés pour l'analyse des données.

Résultats : La recherche démontre qu'un automate d'appel est efficace pour joindre les usagers. De plus, les personnes ayant reçu les conseils santé sont, en proportion, plus nombreuses à adopter des comportements permettant de protéger leur santé. On observe également une plus faible utilisation des services de santé chez les femmes ayant reçu les conseils santé, par rapport à celles ne les ayant pas reçus. Ceci est d'autant plus vrai chez les femmes souffrant d'une maladie chronique.

Conclusions : Le Téléphone santé est utile pour protéger la population. Déployé à plus large échelle, il permettrait des économies importantes en soins de santé.

Décrire comment cette recherche innove : À notre connaissance, il s'agit de la première évaluation de l'efficacité d'un système d'alerte comparant un groupe expérimental et un groupe contrôle.

Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs : L'utilisation d'automates d'appel par les organisations publiques est en progression, particulièrement pour les situations d'urgence. Il est opportun d'y intégrer des messages de prévention destinés aux personnes vulnérables à la chaleur et au smog.

144. Whither climate change and health? A research agenda to assess the resilience of the Canadian health care system to the (health) impacts of climate change - Susan Elliott

Co-author: Elijah Bisung

Background: While much international attention is now focused on the health impacts of climate change, little to no research activity addresses the resilience of the health care system itself to the (health) impacts of climate change. The consequences of this gap have been recently underscored by climate-change related events in Canada such as the Fort Mac fires as well as the increase in the incidence of vector-borne diseases (e.g., Lyme disease; West Nile Virus).

Objectives: This presentation addresses the resilience of the Canadian health care system to the (health) impacts of climate change.

Methods: A systematic review of the peer reviewed and grey literatures addressing the resilience of the Canadian health care system to the (health) impacts of climate change are extended through the analysis of qualitative interview data with lead researchers in Canada working in the field.

Results: N=14 peer reviewed journal articles from countries with health care systems similar to Canada's (the UK, the US, Australia and New Zealand) were uncovered through the systematic review. These are partnered with 6 (international) reports, along with key informant interviews to identify 8 research gaps, along with a range of facilitators and barriers to undertaking the research needed to move forward.

Conclusions: Until federal and provincial government agencies as well as funding councils in Canada lift the barriers identified, these research gaps cannot be filled and Canada will remain unprepared to address the impacts climate change will have on our health care system.

Describe How This Research Demonstrates Innovation: This is the first Canadian study to identify the research needs, facilitators and barriers, related to the health impacts of climate change as they affect the resilience of the health care system.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or

Practice: The results of this research have been shared with Health Canada to inform the national vulnerability assessment on climate change, 2021.

145. Public and health professional opposition to community water fluoridation: An investigation of trust and perceived risk in the context of new, local research findings - Katrina Fundytus

Co-authors: Richard Musto, Jack Lucas, Lindsay McLaren

Objectives: To understand how health professionals and members of the public in Calgary, who self-identify as opposed to community water fluoridation (CWF), react to new, local research evidence showing that tooth decay in Calgary increased during a period when CWF was ceased.

Methods: This critical qualitative study was grounded in Ulrich Beck's and Brian Wynne's sociological theories of risk. Four health professionals were purposively recruited and participated in one-on-one interviews; questions focused on the recent Calgary CWF cessation study and CWF science and practice more generally. Online comments connected to news coverage of the Calgary fluoridation study were also analyzed.

Results: We observed two prominent and overlying themes: (1) strong feelings of *mistrust* towards the Calgary fluoridation cessation study, health research, and researchers, and (2) an "*us versus them*" *mentality* which questioned the ability of government authority figures to make appropriate health decisions for the public, and which underscored a strong view that responsibility for dental health lies with the individual.

Conclusions: Mistrust, an us versus them mentality, and the individualization of health, held by some health professionals and members of the public, appear to present strong contemporary challenges to community water fluoridation, and to population-level measures in public health generally.

Describe How This Research Demonstrates Innovation: While opposition to fluoridation is long-standing and has been well-studied, the present study shows how opposition plays out in 'real time' in the context of fluoridation cessation and subsequent published research. Findings build on the theoretical foundations of the study in that, in contrast to a "lay-expert" divide, in the context of fluoridation there also appears to exist an "expert-expert" divide.

Describe How This Research Informs Change to Future Public Health Research, Policy Development and/or

Practice: Cessation of fluoridation appears to be occurring with increasing frequency in Canada. The prominence of mistrust presents a challenge that public health authorities and advocates will have to negotiate when cessation appears imminent.