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**Oral Abstract Program**  
**Programme des résumés oraux**

## ORAL PRESENTATION 1

Tuesday 29 May

10:45-12:15

Van-Horne

**The association between social norms regarding pregnancy and pregnancy attitudes among youth experiencing homelessness - Stephanie Begun****Co-authors:** Anamika Barman-Adhikari, Candidate Katie Massey Combs, Kimberly Bender, Eric Rice**Objectives:** Youth experiencing homelessness become pregnant or involved in pregnancies at exceptionally high rates, and most research focuses solely on females' pregnancy attitudes and behaviours at the individual level. This study builds upon emerging literature that considers social network influences on homeless youths' health attitudes and behaviours by examining the association between social norms regarding pregnancy, perceived by youth as conveyed by members of their social networks, and youths' pregnancy attitude endorsements.**Methods:** Homeless youth ages 13-24 ( $N=304$ ) were recruited from three drop-in centers in Southern California, and were interviewed regarding their individual and social network characteristics. After controlling for youths' sociodemographics and other life experiences, logistic regressions assessed associations between social norms regarding pregnancy, perceived by youth as held by specific social network member types (e.g., home-based peers, street-based peers, family members, shelter staff, and serious partners), and youths' pregnancy attitudes.**Results:** Multivariate results revealed that youth who perceived their street peers as overall more objecting to (versus encouraging of) them becoming pregnant or involved in a pregnancy were 51% less likely to endorse pro-pregnancy attitudes ( $OR=0.49$ ,  $p<.01$ ). Youth who perceived their serious partners as overall more objecting to (versus encouraging of) them becoming pregnant or involved in a pregnancy were 74% less likely to endorse pro-pregnancy attitudes ( $OR=0.26$ ,  $p<.01$ ).**Conclusions:** Results suggest there may be utility in further exploring peer-based and intimate partner/dyadic approaches to reproductive and sexual health intervention efforts with homeless youth, particularly as these appear to be among the most salient network-based influences on youths' pregnancy attitude formation.**Describe how this research demonstrates innovation:** This research is innovative, as it seeks to identify novel approaches to intervention development and testing that are tailored to the social contexts and networks of a uniquely vulnerable youth population.**Describe how this research informs change to future public health research, policy development and/or practice:** This research suggests that intervention strategies may benefit from including members of youths' social networks in intervention activities and efforts.**Development of an Online Perinatal Mental Health Toolkit for Local Public Health Practice - Cassie Ogunniyi****Co-authors:** Brent Moloughney, Anna Vanderlaan, Andrea Feller**Background:** The Healthy Human Development Table (HHDT) is comprised of representatives from Ontario public health units (PHUs), Public Health Ontario, and academic and community leaders in early child development. A needs assessment process resulted in the HHDT focusing on perinatal mental health.**Program Purpose:** An online Perinatal Mental Health Toolkit was developed to build capacity and advance the consistency of practice among Ontario PHUs to plan and deliver an evidence-based, best practice approach to perinatal mental health promotion.**Target Groups:** The Toolkit is primarily intended for PHU staff and management working in perinatal mental health, although some modules may also be relevant to other PHU staff who support the planning, monitoring and evaluation of services. The Toolkit may also be relevant to provincial-level public health decision-makers, as well as primary care providers and community partners.**Activities:** A literature review and analysis of existing clinical practice guidelines were combined with existing practice experience to describe a comprehensive population health approach to perinatal mental health.

**Deliverables:** The online Toolkit includes modules addressing the importance of perinatal mental health and the role of public health including informing broader health system planning. Starting with a situational assessment, modules describe public health actions including: population health assessment and surveillance; building community collaboration and capacity; promoting public education and awareness; building a community system of care; and, developing a public health care pathway.

**Describe how this public health practice/program demonstrates innovation:** The Toolkit is innovative in addressing broader community-wide approaches in addition to direct service delivery to impact perinatal mental health. The ADAPTE process was used to inform the adaptation of existing clinical guidelines from multiple jurisdictions to the Ontario public health context.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** The Toolkit incorporates a range of potential “next step” public health roles and actions to promote perinatal mental health depending upon the local context and needs.

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### **Early predictors of mental illness in women: the case of preeclampsia and late onset depression - Aimina Ayoub**

**Co-authors:** Nathalie Auger, Marianne Bilodeau-Bertrand

**Background:** Risk factors for late onset depression are poorly understood. Women with preeclampsia, a hypertensive disorder of pregnancy, are more likely to have postpartum depression, but the association with depression after the postpartum period has not been investigated.

**Objective:** To determine if preeclampsia is a risk factor for depression beyond the postpartum period.

**Methods:** We conducted a longitudinal cohort study of 1,104,101 parous women with no prior history of depression who delivered in hospitals in Quebec, 1989-2013. The exposure was preeclampsia at any pregnancy, by onset time (<34 vs. ≥34 weeks of gestation) and severity (mild, severe, superimposed). The outcome was hospitalization for depression up to 27 years after pregnancy, with follow-up ending in 2016. We used Cox regression models to compute hazard ratios (HR) and 95% confidence intervals (CI) for the association of preeclampsia with depression, adjusted for maternal characteristics.

**Results:** Preeclampsia was associated with 1.21 times the risk of depression hospitalization during follow-up (95% CI 1.14-1.28). Risks were elevated regardless of preeclampsia onset time or severity, although associations were somewhat stronger for preeclampsia before 34 weeks (HR 1.24, 95% CI 1.03-1.49) and superimposed preeclampsia (HR 1.37, 95% CI 1.05-1.78).

**Conclusions:** Preeclampsia is associated with depression beyond the first year postpartum.

**Innovation:** Early life risk factors for late onset depression are unclear, yet pregnancy may reflect a period in life where prevention could be enhanced. This research shows that preeclampsia is associated with the risk of depression over the life course, well past the first year postpartum. Most studies on pregnancy and risk of mental illness focus on the immediate period following delivery, a paradigm which may need changing.

**Implications:** This study suggests that risk factors for late onset depression are present early in the life of women. Prevention of late onset depression may begin as early as the first pregnancy affected by preeclampsia. The results call for novel routes of investigation in the pathophysiology, prevention, and management of mental illness in women over the life course.

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### **Delivering the Nurse-Family Partnership program in rural communities - Karen Campbell**

**Co-authors:** Susan Jack, Karen MacKinnon, Maureen Dobbins, Natasha Van Borek

**Background:** Living in social or economic disadvantage is associated with negative health outcomes for families. Rural living creates additional health challenges and opportunities. The Nurse-Family Partnership (NFP) is a

promising public health program designed to improve maternal and child health through the use of home visits with public health nurses (PHNs). However, the efficacy of the NFP is unknown within a Canadian context and is currently being evaluated across five health authorities in British Columbia (BC).

**Objectives:** The objective of this study was to describe the experiences of PHNs and supervisors implementing the NFP program in rural BC and explore the impact of geography on program delivery.

**Methods:** Using interpretive description methodology, interviews were conducted with PHNs (n=50) and supervisors (n=20) delivering the NFP program in BC. Data were analyzed following principles of thematic analysis and constant comparative techniques.

**Results:** Findings revealed how geography influenced the delivery of the NFP in rural communities. Themes included: “the balancing act” of nursing in a dual role while working with rural families; the “challenge of communication” in rurality; and “navigating isolation” as a healthcare professional. A focus on communication and relationship building is required for successful rural implementation. Furthermore, there is a need for structural forms of support and resources to enhance rural practice.

**Conclusions:** Given the complexities associated with rural practice, this study provides insights to inform nursing practice and support policy development. Findings offer innovations for practitioners working with families in rural communities.

**Describe how this research demonstrates innovation:** This research demonstrates innovation in the delivery of public health services in rural communities and focuses on the need to adapt public health interventions to meet the needs of families in rural communities. It supports a targeted primary prevention intervention program for young mothers as a health equity strategy.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research informs practice by identifying the need for tailored policy approaches in contexts outside of urban environments, specifically for caseloads, communication, and commuting.

### **Power and Knowledge: Understanding how Migrant and Canadian-born Women Participate in Obstetrical Decision-Making - Priatharsini (Tharsini) Sivananthajothy**

**Co-authors:** Zubia Mumtaz

**Background:** Research in Canada indicates migrant women to have higher rates of caesarean sections (C-sections) compared to Canadian-born women. Communication barriers have been cited as potential contributing factors. However, the complexities of patient participation in decision-making have not been well explored in migrants, especially in the context of labour and delivery (L&D).

**Objectives:** The present study aims to understand migrant women’s ability to make decisions during L&D including C-section decisions, whether they differ from the experiences of Canadian-born women, what barriers limit participation, as well as if and how women are able to overcome these barriers.

**Methods:** A qualitative study using a focused ethnographic approach was conducted at a teaching hospital in Edmonton over a ten-month period. Migrant (N=64) and Canadian-born women (N=27) who had a higher risk of undergoing a C-section were included. Data were collected through observation of prenatal appointments (N=250), L&D observations (N=27) and postpartum in-depth interviews (N=44). Written informed consent was obtained from participants and ethics approval was received from the University of Alberta.

**Results:** Participation experiences were similar between both groups, including barriers faced. Power imbalances, such as the institutional authority of providers and limited sharing of information, restricted participation in decision-making. However, ‘expert patients’ consisting of migrant and Canadian-born women, overcame these barriers using privileged knowledge about obstetrical interventions available and learned ability to exercise patient rights.

**Conclusions:** Power imbalances in patient-provider interactions need to be dismantled through education on patient rights and information on healthcare services, to allow all patients to fully participate.

**Describe how this research demonstrates innovation:** Both our novel study topic, migrant women's participation in L&D decision-making, and our use of participation observation, which is critical to uncover power imbalances in patient-provider interactions, demonstrate innovation.

**Describe how this research informs change to future public health research, policy development and/or practice:** Our research informs practice changes including: i) need to improve providers' awareness of power imbalances ii) need to share information about patient rights and comprehensive information about available obstetrical interventions to patients.

## ORAL PRESENTATION 2

Tuesday 29 May

10:45-12:15

Mansfield/Sherbrooke

**Can community resources mitigate the effects of household poverty on ACE (Adverse Childhood Experience) incidence? - Alexandra Blair**

**Co-authors:** Louise Marryat, Professor John Frank

**Objectives:** To determine whether the association between household poverty and 8-year cumulative ACE incidence (CIACE) is modified by access to housing, transportation, childcare, breastfeeding counseling, and parks.

We conducted this study in Scotland, where ACE and low-income prevalence are high.

**Methods:** The population-based Growing Up in Scotland cohort (N=2,816) provided all data, including households' baseline low-income status (<£11,000 in 2004/5), and cumulative incidence of neglect, abuse, household domestic violence, substance misuse, incarceration, separation, or mental health issues. Effect modification was assessed via log-binomial models adjusted for the joint strata of low-income and each modifier (the relative excess risk due to interaction (RERI) was then computed). We also estimated the total effect (TE), and the controlled direct effect (CDE) of low income when holding resources fixed. The proportion of the effect that would be eliminated if all households had the resources was computed (Proportion Eliminated (PE) = [TE-CDE]/[TE-1]). Analyses were adjusted for child's sex, and mothers' education, race, age at first pregnancy, employment, and rurality.

**Results:** The association between low income and CIACE was modified, in a protective direction, by households' access to transportation (RERI=0.38, 95% CI 0.23, 0.53), accommodation (RERI=0.34, 95% CI 0.15, 0.52), and breastfeeding education (RERI=0.24, 95% CI 0.07, 0.41)—but not by childcare or park proximity. If all access to breastfeeding education, housing, or transportation, the PE would be 24% (95% CI 5%-42%), 38% (8%-60%), and 47% (26%-65%), respectively.

**Conclusions:** While second best to the complete elimination of child poverty, measures to improve families' access to community resources may mitigate the effects of poverty on ACE incidence.

**Describe how this research demonstrates innovation:** This research is innovative both in its treatment of ACEs as potentially preventable outcomes, and its application of cutting-edge epidemiologic methods (namely regression- and inverse probability weight-based mediation analyses).

**Describe how this research informs change to future public health research, policy development and/or practice:** Our findings suggest that intervening on community-level resource availability could represent a valuable interim measure to mitigate the effects of childhood poverty on ACEs.

## **Redressing the Achievement Gap through Early Social Emotional Learning (SEL): Building a Foundation with Early Childhood Educators in a Professional Learning Community - Jessie-Lee McIsaac**

**Co-authors:** Elizabeth Munroe, Jean Hughes, Jackie Nguyen

**Background:** Social and emotional skills developed through play provide a foundation for early childhood development and future education outcomes for children.

### **Program Purpose:**

The purpose of this project was to establish a Professional Learning Community to connect select Early Childhood Educators (ECEs) across Nova Scotia. The main focus was to support the ECEs understanding regarding facilitating the development of children's SEL through play.

**Target Groups:** A total of 18 ECEs who currently facilitate Early Learning Programs – one in each school board throughout the province - participated in the Professional Learning Community.

**Activities:** Between October 2016 and May 2017, seven sessions (4 on-line, 3 in person) were facilitated. The sessions focused on gaining enhanced understanding of SEL concepts and sharing strategies and resources as well as leveraging ECEs' experiences through participatory discussions.

**Deliverables:** A project report was developed to inform policy actions that support ECEs' learning about facilitating SEL in early childhood environments. A resource document is also being developed for ECEs, school staff and families to increase awareness and to provide strategies for facilitating SEL during early childhood.

**Describe how this public health practice/program demonstrates innovation:** One innovation was to facilitate professional learning through face to face and on-line sessions of ECEs from 8 Early Learning Programs distributed across the province. Another innovative aspect was to focus on children's SEL in the year before formal schooling as a contribution toward addressing the achievement gap before school entry.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** This project has helped to identify ways to support the professional learning of ECEs in SEL through play to support future delivery of early learning program.

## **Breaking Down the Relationship Between Sex, Neighbourhood Socioeconomic Status, and Early Child Development Across Canada - Simon Webb**

**Co-authors:** Magdalena Janus, Eric Duku

**Background:** Data from the Canadian Neighbourhoods and Early Child Development (CanNECD) study have shown that for early developmental outcomes there is a combined effect between a child's sex and the socioeconomic status (SES) of the area where they grew up. Canadian boys tend to have a steeper SES gradient in Kindergarten-aged developmental outcomes than girls.

**Objectives:** This study uncovers further evidence of sex-SES interactions by examining specific aspects of child development, with sub-domains of the Early Development Instrument (EDI).

**Methods:** We use the CanNECD database to model the relationships between SES, sex and the 16 sub-domains of the EDI. Individual-level EDI data from across Canada are combined with a neighbourhood-level SES index which was specifically designed to analyze child development. Multilevel regressions are used to model the relationships between the predictors and the sub-domains.

**Results:** The findings suggest that there are significant sex-SES interactions in the basic literacy, interest in literacy/learning, aggressive behavior and hyperactive and inattentive behaviour sub-domains of the EDI. The outcomes in the physical health and well-being and social competence domains showed fewer significant interactions between sex and SES, which tended to be of a smaller magnitude.

**Conclusions:** This research supports the previous findings of a disadvantage in child development for males from low-SES neighbourhoods, but adds that this sex-SES interaction is only observed for certain aspects of child development. The findings give hints as to which mechanisms may be at play in this interaction effect.

**Describe how this research demonstrates innovation:** The CanNECD database is the first of its kind, which combines provincial early child development data with full population coverage across Canada. This allowed this particular study to analyze individual child data with a pan-Canadian scope.

**Describe how this research informs change to future public health research, policy development and/or practice:** Our neighbourhood-level SES can help identify broad trends applicable to all children and inform delivery of preventive and intervention services. Availability of individual-level SES data in future would help uncover the specific mechanisms driving the observed results.

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### **The potential for adult role models and community involvement to mitigate the effects of economic disadvantage on children's social competence - Lisa Ritland**

**Co-authors:** Anita Minh, Monique Gagne, Tavinder Ark, Barry Forer, Simon Webb, Marni Brownell, Magdalena Janus, Nazeem Muhajarine, Martin Guhn

**Background:** Studies have found that neighborhood social capital can buffer the effects of economic disadvantage on developmental outcomes during early childhood, however little is known within the Canadian context.

**Objectives:** Using comparable neighborhood-level samples from the Canadian provinces of British Columbia (BC) and Ontario (ON), we ask: how does economic disadvantage and neighbourhood social capital, defined as the *presence of role models* and the *willingness of neighbors to keep children safe*, relate to vulnerability in social competence?

**Methods:** We used four data sources: the Canadian Neighborhoods and Early Childhood Development study; the ON Kindergarten Parent Survey; the BC Social Capital Study; and the 2006 Census. The resulting sample pertains to 74,770 six-year-old children from 482 neighborhoods in ON, and 9,009 children from 100 neighborhoods in BC. We used multiple linear regression to examine the relationship between economic disadvantage and vulnerability rates in social competence. We tested whether the social capital indicators moderated this relationship.

**Results:** Economic disadvantage was significantly associated with social competence in both provinces (BC:  $b=-1.78$ ,  $p<0.001$ ; ON:  $b=-1.29$ ,  $p<0.001$ ). The *presence of adult role models* and a *greater willingness of neighbors to keep children safe* were associated with better social competence, even after adjusting for other neighborhood factors in BC ( $b=-15.09$ ,  $p=0.07$ ;  $b=16.20$ ,  $p=.01$ ) and ON ( $b=-10.67$ ,  $p<0.001$ ;  $b=-11.12$ ,  $p<0.001$ ). There was no evidence that social capital moderated the relationship between economic disadvantage and social competence.

**Conclusions:** Role models and community involvement may influence social competence in early childhood independently of economic disadvantage. Further analyses are needed to examine how these relationships apply to the various dimensions of children's social competence.

**Describe how this research demonstrates innovation:** This research is the first to show an association between neighborhood social capital and young children's social competence in Canada.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research supports the need for strategies to both address poverty reduction and develop community resources for families and young children.

## Social determinants of development of children with Autism Spectrum Disorder: A population-level study - Ayesha Siddiqua

**Co-authors:** Eric Duku, Magdalena Janus

**Background:** Ecological factors, such as characteristics of neighbourhoods, may be the most important determinants of health of a population – highlighting the importance of examining the impact of neighbourhood socioeconomic status (SES) on the development of children with Autism Spectrum Disorder (ASD).

**Objectives:** To examine the variance explained by neighbourhood SES in development of children with ASD across Canada.

**Methods:** A population-wide database of child development in kindergarten, measured with the Early Development Instrument (EDI) was used. EDI is a teacher-completed questionnaire that provides information on children's developmental status in 5 domains: physical, social, emotional, language/cognitive, and communication/general knowledge. A score below a baseline 10<sup>th</sup> percent cut-off on any of the 5 domains indicates vulnerability. The EDI data have been merged at the neighbourhood level with SES variables from the Canadian Census, and Taxfiler data, and SES index created with a subset of 10 variables. Linear regressions were used to examine variance explained by the SES index and each of its components in overall vulnerability in a neighbourhood for each province/territory.

**Results:** In Ontario, sequential addition of 6 SES index variables representing demographic and material components (e.g. parent's marital status, income, education, wealth) explains increasing variance in overall vulnerability, with adjusted R<sup>2</sup> values ranging from 0.002 to 0.035. The adjusted R<sup>2</sup> value for the overall SES index score is 0.02. The analyses for remaining jurisdictions are ongoing.

**Conclusions:** Among children with ASD in Ontario, demographic and material components of neighbourhood SES explained the most variance in their development, although a large proportion of variance remains unexplained.

**Describe how this research demonstrates innovation:** The large EDI-SES linked database presents an unprecedented opportunity to examine the impact of neighbourhood SES in development of children with ASD at an aggregate level, which is not possible through sample-based research where these children are not included in sufficient numbers.

**Describe how this research informs change to future public health research, policy development and/or practice:** Findings of this project can facilitate customized service planning according to the jurisdictional policies and needs.

### ORAL PRESENTATION 3

Tuesday 29 May

10:45-12:15

Crescent

#### Creating Healthier Food Environments in Canada: The Food Environment Policy Index - Lana Vanderlee

**Co-authors:** Sahar Goorang, Kimiya Karbasy, Alyssa Schermel, Mary L'Abbé

**Background:** Food environment policies play a critical role in improving diet and related non-communicable diseases (NCDs).

**Objectives:** This study aimed to examine federal, provincial and territorial food environment policies and develop prioritized actions to improve the Canadian food environment.

**Methods:** This study employed the Healthy Food Environment Policy Index (Food-EPI) to measure the extent of implementation of food environment policies in Canada. The index examines 7 policy domains (food composition, labelling, promotion, prices, provision, trade, and retail) and 6 infrastructure support domains (leadership, governance, monitoring and intelligence, funding and resources, platforms for interaction, and health-in-all-policies). An inventory of current policy implementation was collated and verified by government



stakeholders. Implementation was rated compared to international benchmarks by 71 non-governmental experts using online surveys and in-person workshops for 47 policy indicators. Concrete actions at the federal, provincial and territorial level were discussed and prioritized.

**Results:** The federal government met international benchmarks for labelling on food packages, minimizing taxes on healthier food options, political leadership for obesity and NCD prevention, and strong governance policies. Most provincial/territorial governments met benchmarks for implementation and support for school nutrition policies, and monitoring NCD prevalence and risk factors. There was little or no implementation in 6 of 47 policy indicators, including retail-related policies, marketing to children, taxes on unhealthy food and beverages, and health-in-all-policies approaches. Priority actions for all governments were identified.

**Conclusions:** There is a patchwork of food environment policies implemented across Canada. Prioritizing actions to improve the food environment has significant potential to influence the diet of Canadians, with downstream influences on NCD rates.

**Describe how this research demonstrates innovation:** The process brought together thought leaders from across the country to implement Food-EPI, an internationally-developed tool that has been implemented globally in 13 countries to date, supporting between-country comparisons.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research identified policy gaps, and prioritized concrete actions to encourage policy makers to establish a comprehensive strategy to address unhealthy diets and rates of diet-related NCDs.

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### **An assessment of the retail food environment in a functional region in Northern British Columbia, Canada - Rebecca Hasdell**

**Co-author:** Catherine Mah

**Background:** Retail food environments are recognized as an important contributor to population-level nutrition. While there is a growing evidence base characterizing food environments in larger centres, evidence from Canada's Provincial Norths is more limited. The Provincial North is characterized by unique contextual features that differ from southern and urban communities, and that may impact Northern food environments. Accounting for these dynamic contexts is an integral aspect of planning for population health interventions to promote healthier environments in small, rural and remote communities.

**Program Purpose:** To develop a locally-relevant food retail environment assessment for Northern Health Region, an administrative region in BC, Canada.

**Target Groups:** The assessment area included three small population centres (between 1,000 and 29,000) and seven rural areas (<1,000) in the Northwest Region of Northern Health Authority, BC.

**Activities:** Three dialogic workshops employing case vignettes were held with public health practitioners in June 2017 to identify contextual features that may influence food access and purchasing patterns in Northern BC communities. Relevant spatial, social and economic features that surfaced in the workshops informed the assessment plan, including: (1) identification of a functional region for consumer (i.e. in-store) food environment assessment, and (2) adaptations to the Nutrition Environment Measurement Survey (NEMS-S), an observational tool for retail food environments. An audit of N=41 stores was completed in October 2017.

**Deliverables:** Stores were assessed for the cost, quality and availability of healthier food items. Tool development, implementation and interpretation of results indicated the need to consider regional-level contextual factors such as transportation networks, individual activity patterns and local economic development in intervention planning.

**Describe how this public health practice/program demonstrates innovation:** This research responds to gaps in research on small, rural and remote retail food environments, and on the role of context in population health approaches to improve population diets.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** Robust assessment evidence is needed to accelerate the development of testable, local population health interventions that improve access to healthier foods in the retail food environment. This research informs how contextual differences in small, rural and remote regions can be considered in the design of assessments to inform locally-relevant solutions.

### **An Assessment of the Rural Consumer Food Environment in Newfoundland and Labrador - Catherine Mah**

**Co-author:** Nathan Taylor

**Background:** Retail food environments influence food purchasing, dietary behaviours, and health outcomes. Rural residents face disparities in economic and geographic access to retail sources for healthy, quality foods but there remains a relative paucity of rural research on the in-store consumer food environment.

**Objectives:** Our aim was to assess food availability and quality in the rural consumer food environment in Newfoundland and Labrador (NL).

**Methods:** As part of a larger intervention study (Healthy Corner Stores NL), an intersectoral team adapted the Canadian version of the Nutrition Environment Measures Survey-Stores (NEMS-S) with special consideration for NL diet and culture. We conducted a census of the rural consumer food environment in Eastern NL (n=78 stores) using the NEMS-S-NL instrument comprised of 14 measures encompassing 98 food items. Descriptive statistics were used to summarize characteristics of stores, and food availability, quality, and price by store type and community remoteness.

**Results:** Of the stores assessed, 77% were convenience stores. 71% were independently owned and 65% were small premises with one checkout. 97% of stores had unhealthy cash register areas. Most stores, including convenience stores, carried a basic range of fresh fruit and vegetables, but the availability of other healthier alternatives was relatively limited. The single audited item available in all stores was regular potato chips. No clear pattern emerged for food quality by community remoteness.

**Conclusions:** Our study contributes to the literature demonstrating the importance of tailoring consumer food environment measurement and interpretation for rural contexts, and offers insights for local intervention development. Descriptive and inferential analysis on price indices will also be conducted to facilitate interpretation of relative access to healthy and unhealthy items in this context.

**Describe how this research demonstrates innovation:** Our study is the first to undertake systematic objective measurement of the consumer food environment in NL and one of few in Canada to comprise regional-scale store audits encompassing rural areas.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research offers insights for retail food environment measurement and intervention development in NL and other rural communities, areas of interest for public health nutrition practice, programs, and policy.

### **Development and monitoring of nutritional targets for Quebec food products - Mylène Turcotte**

**Co-authors :** Marie-Ève Labonté, Jeanne Loignon, Sonia Pomerleau, Mary R. L'Abbé, Theresa Poon, Laurélie Trudel, Véronique Provencher

**Background:** The Food Quality Observatory was mandated to develop a methodology defining nutritional targets for food categories, in the context of monitoring the nutritional quality of the food supply.

**Objectives:** This study aimed to identify the food component thresholds used in various food categories in worldwide nutrient profiling models.

**Methods:** Based on a systematic review, 23 nutrient profiling models were selected, along with the FOP warning labels proposed by Health Canada. For each model, data were extracted for eight food components and 27

predetermined food categories. For each category, thresholds were converted into g/100g and then into quintiles.

**Results:** Saturated fat thresholds ranged from 0 to 5.5g/100g (1<sup>st</sup> quintile) in 56% of the studied food categories. Thresholds for *trans* fat were less than 0.4g/100g (1<sup>st</sup> quintile) in 70% of the categories. Limits for sodium content were below 800mg/100g (1<sup>st</sup> and 2<sup>nd</sup> quintiles) in 88% of the food categories. Thresholds for energy density varied between 7 to 454 kCal/100g. Sugar limits were less than 24g/100g (1<sup>st</sup> and 2<sup>nd</sup> quintiles) in 70% of the food categories for total sugar, and less than 10g/100g (1<sup>st</sup> and 2<sup>nd</sup> quintiles) in 73% of the categories for added sugar. Only one model set a threshold for free sugar content at a maximum of 10% of caloric intake. Within models and food categories that included sweeteners, a threshold of zero was identified.

**Conclusions:** There is no consensus to classify food products based on their nutritional value. Food component thresholds used in nutrient profiling models vary greatly. Common terminology and classification across Canada are required to effectively monitor the nutritional quality of food products.

**Describe how this research demonstrates innovation:** To our knowledge, this is the first study to document the thresholds of many food components from various nutrient profiling models used around the world.

**Describe how this research informs change to future public health research, policy development and/or practice:** The collaboration between food industries, public health agencies and academic researchers is required to develop and monitor the nutritional quality of food products in Canada.

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### **Impact of a Mandatory Policy on Calorie Labelling in Restaurants: Evidence from a Prospective Quasi-Experimental Cohort in Canada - David Hammond**

**Co-authors:** Samantha E Goodman, Lana Vanderlee, Christine M White, Jessica L Reid

**Background:** In January 2017, Ontario became the first Canadian jurisdiction to require sit-down and quick-service restaurants with more than 20 outlets in the province to display calorie information next to menu items.

**Objectives:** We used a quasi-experimental, pre-post design to examine whether the policy influenced consumer responses among youth and young adults.

**Methods:** Online survey data were analysed from Wave 1 (Oct 2016) and Wave 2 (Oct 2017) of the Canada Food Study, a prospective cohort of 16–30-year-old respondents from five Canadian cities. We analyzed data from the 993 participants who completed both baseline and follow-up surveys. Logistic regression analyses examined changes between Waves 1 and 2 among respondents from Toronto, Ontario—in which menu labelling was implemented between baseline and follow-up—and respondents from the four other provinces (control). Measured variables included noticing of nutrition information in restaurants, reported location, perceived influence and behavioural impact of the noticed information, support of mandatory calorie labelling and socio-demographic factors.

**Results:** At baseline, no differences were observed for any outcome between Ontario respondents and those from other provinces. At follow-up, Ontario respondents were significantly more likely to report noticing nutrition information in restaurants, seeing it on the menu/menu board and being influenced by it; they were also significantly more likely to report a 'positive' impact of the information, such as changing their order or consuming less food ( $p < .05$  for all). Analyses will examine socio-demographic differences and the extent to which responses were moderated by BMI, weight control efforts and disordered eating.

**Conclusions:** The implementation of mandatory calorie labels on menus in Ontario, Canada is associated with a positive impact with respect to consumer perceptions and self-reported behaviour.

**Describe how this research demonstrates innovation:** This study is the first to examine the effects of this newly implemented provincial policy on consumer responses.

**Describe how this research informs change to future public health research, policy development and/or practice:** Results may be used to inform the development of menu labelling policies in other jurisdictions.

## ORAL PRESENTATION 4

Tuesday 29 May

10:45-12:15

Notre-Dame/Sainte-Denis

**Assessing Interdisciplinarity in Global Health Training - Erica Di Ruggiero****Co-authors:** Uttam Bajwa, Andrea Cortinois

**Background:** The Office of Global Public Health Education & Training at the Dalla Lana School of Public Health (DLSPH), University of Toronto oversees interdisciplinary initiatives in global health, including the Collaborative Specialization in Global Health (CSGH). To assess these programs, we are developing an evaluation framework to measure the impact of the CSGH. The specialization allows graduate students to enroll in both a home discipline and explore fields through an interdisciplinary lens and includes coursework and co-curricular activities.

**Objectives:** To assess interdisciplinary global health training in the context of the CSGH.

**Methods:** This research is grounded in a literature scan of existing approaches to assess global health training, including measures of interdisciplinarity. It also relies on the pilot student survey that explores students' learning goals, past training, and work and volunteer experience. The survey also measures students' understanding of "global health".

**Results:** There are few, if any, metrics for assessing interdisciplinary education and we identified no metrics appropriate for interdisciplinary training in global health at the graduate level. Based on the pilot survey and literature scan, we developed a conceptual framework to guide the evaluation of the CSGH. We suggest that an evaluation framework for interdisciplinary global health training should have a number of key characteristics.

**Conclusions:** In response to increasing student interest in global health, Schools of Public Health around the world are developing a range of programs to prepare the next generation of global health leaders. To determine whether program objectives and student needs are met, these initiatives need robust evaluation that assess their effectiveness and innovation.

**Describe how this research demonstrates innovation:** Multidisciplinary global health graduate education is a growing area of interest. In particular, co-curricular, applied learning opportunities are an innovative way to support learners.

**Describe how this research informs change to future public health research, policy development and/or practice:** Results from the literature review and preliminary survey results should be of interest to others developing and scaling up global health education programs with interdisciplinary objectives in mind.

**CSIH MentorNet: Exploring application of module-based curriculum for mentoring students and young professionals in global health - Yoshith Perera****Co-author:** Michelle Amri

**Background:** In 2011, the Canadian Society of International Health (CSIH) created MentorNet, a national global health mentorship program, to address the need for connecting students and young professionals (SYPs) with experts in fields relevant to global health.

**Program Purpose:** The program aims to help develop the next generation of leaders in the field by facilitating knowledge transfer between SYPs studying and working in global health, with experienced global health experts in Canada and abroad.

**Target Groups:** Students, Young Professionals, Public Health and Global Health Practitioners, Mentors, Mentees

**Activities:** MentorNet is run by a volunteer Steering Committee from across Canada. The Committee members manage all aspects of the program, including recruitment, selection, and matching of SYPs with mentors. SYP admission is competitive; with a total of 117 SYP and 56 mentor applications in 2017. Successful applicants are matched with a mentor based on their interests. Committee members also liaise SYP-mentor relationships while

providing support around module development, program marketing etc. Mid- and post-program evaluation questionnaires are administered online and retrieve anonymous data.

**Deliverables:** Mid- and post- program evaluation results indicate that participants were highly satisfied with the program, with the majority of SYPs reporting improved understanding of global health issues, expanded professional networks, and increased interest in pursuing a career in global health.

**Describe how this public health practice/program demonstrates innovation:** CSIH MentorNet provides formal mentorship opportunities at no cost to the student/young professional, whereas similar programs charge a participation fee. While mentorship exists in other spheres, this mentorship program is unique in that it is directly applied to global health and is the first of its kind.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** It provides multiple opportunities for knowledge exchange and knowledge mobilization from both an inter-generational and experiential perspective.

With increased development of global health mentorship programs in recent years, MentorNet can provide learnings from six years of operations to guide the development of other progra

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### **Experiential Learning for Public Health Professionals: An evaluation of educational value - Miranda Loutet**

**Co-author:** Thomas Piggott

**Background:** Traditional pedagogical methods are teacher-centric, often leading to disengaged learners. The 'flipped-classroom' inverts this traditional method, focusing on problem-solving and application of knowledge. Simulation learning presents one technique for engaging learners in complex public health topics.

**Objectives:** The objective of our study is to assess simulation learning as an educational approach in public health.

**Methods:** Using a mixed-methods evaluation design, we described the topic, content and evaluation results from simulations facilitated by Global Health Sim between October 2016 and November 2017.

We assessed the quantitative measures of content knowledge of the public health topic before and after participating in the simulation and conducted a qualitative thematic analysis of the experience and lessons learned reported by participants.

**Results:** A total of 9 simulation exercises were facilitated for 106 participants, covering 5 different public health topics. Self-reported knowledge of the topic increased an average of 3.4 points (10 point scale), from 3.7 to 7.1. Participants rated the educational value of the experience an average of 4.1 (5 point Likert scale). Thematic analysis revealed an increased understanding of the complexity of public health problems and strategies for effectively responding to public health issues in a multi-disciplinary manner.

**Conclusions:** Overall, simulations were of great educational value to participants. Further research is required to assess the long-term educational impact of simulations in public health. Lessons learned from this research project demonstrate the value of simulation learning as a 'flipped-classroom' and building capacity in the public health field.

**Describe how this research demonstrates innovation:** Simulations have been used in medical and aviation training, and offer an innovative opportunity for public health professionals to develop skills in negotiation, problem-solving and strategy design, in a safe and sustainable way.

**Describe how this research informs change to future public health research, policy development and/or practice:** By evaluating the learning outcomes gained through simulating complex public health scenarios, we aim to demonstrate the effectiveness of simulations to prepare public health professionals for contributing to future public health research, policy and practice.

### **Teaching Public Health Ethics in Canadian Universities: Are the Current Means Meeting the Needs of Future Public Health Professionals? - Louise Ringuette**

**Co-authors:** Michael Keeling, Jean-Christophe Bélisle-Pipon, Olivier Bellefleur, Victoria Doudenkova, Mylène Maguire, Stanislav Birko, Marie-Christine Roy, Hazar Haidar, Vardit Ravitsky, Bryn Williams-Jones

**Background:** Does the next generation of public health (PH) professionals have the training to face the ethical challenges likely to arise in their practice? Are they receiving training in ethical problem solving to address issues when implementing policies or interventions? How should PH ethics be taught? And what are the barriers to teaching PH ethics in Canadian universities?

**Objectives:** This study sought to understand: (1) the state of PH ethics education in Canadian university PH programs/schools, and (2) the perspectives of Canadian PH professionals on the ethics resources they use and their needs for additional tools/training.

**Methods:** Two Canada-wide surveys were sent to: (1) 401 directors and professors responsible for teaching PH ethics in 32 Canadian universities, and (2) 2024 PH professionals and Chief Medical Officers.

**Results:** *Survey 1.* 49 participants (20 universities/7 provinces) responded. 88% of respondents believed there are areas for improvement with current PH ethics training. The three main barriers are: lack of time/full curriculum, lack of clarity about who is responsible for developing the ethical component, and lack of qualified instructors. Three quarters of respondents identified the need for a basic curriculum (number of hours/content). *Survey 2.* 401 PH professionals (local to federal levels/all provinces) responded. 80% of respondents are interested in resources/training in PH ethics; 92% believed that PH training should include a basic curriculum in PH ethics.

**Conclusions:** This study provides a description of the state of PH ethics education in Canadian universities, and lays the groundwork for a better understanding of PH ethics practices and needs among PH professionals.

**Describe how this research demonstrates innovation:** This is the first Canadian study to integrate both perspectives: current ethics education and needs in PH universities, and current and prospective ethics resources for PH professionals.

**Describe how this research informs change to future public health research, policy development and/or practice:** The results will guide future work to develop training tools that are adapted to the needs of PH students, current and future PH professionals.

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### **Developing a Research Trainee Competency Framework in Population Health: A Student-Led Initiative - Christie Silversides**

**Co-authors:** Lori Weeks, Maureen Summers, Ariane Seguin, Caitlyn Ayn, Sara Brushett, Kirk Furlotte, Holly Mathias, Madison MacQuarrie, Madeleine McKay, Laura Miller, Lauren Moritz

**Background:** The Healthy Populations Institute (HPI) at Dalhousie University is composed of multidisciplinary faculty and students focused on health research, capacity building, and knowledge translation. HPI recognized the need for a framework reflecting research and research-related competencies required of student scholars in population health to excel in their field, impact public health, and ensure academic rigour.

**Objectives:** HPI's goal was to develop a competency framework based on student-identified needs for training and program development. Using this framework, existing educational and experiential learning opportunities can be evaluated or developed to ensure they meet these needs.

**Methods:** Guided by senior and associate research scholars, HPI student members performed a scoping review of existing frameworks and mapped regional resources/opportunities to establish a competency framework draft. Focus group consultations were conducted with stakeholders (including public health professionals, researchers, faculty, and students) using a semi-structured guide based on the draft framework to discuss other relevant competencies and stakeholder-identified needs.

**Results:** Based on findings from the scoping review, resource mapping, and consultations, the HPI competency framework was developed. This framework includes four guiding principles (capacity building, community, cultural competence, and critical reflection) with six main competencies (communication, leadership, knowledge, programming, support and enable change, and research, policy, and practice).

**Conclusions:** No single existing framework met the needs of future population health professionals. This collaborative work yielded an innovative approach to the training and development of HPI student scholars.

**Describe how this research demonstrates innovation:** This framework was created using a collaborative process that involved students, established researchers and professionals to create a novel competency framework that aimed to meet the needs, and benefit, current and future population health professionals and stakeholders.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research identified key competencies needed for the professional development of future population health professionals. This framework can be used to guide the training of well-rounded public health professionals who integrate interdisciplinary perspectives on health in their research, policy, and practice.

## ORAL PRESENTATION 5

Tuesday 29 May

10:45-12:15

Sainte-Catherine

### The rise of overdose deaths involving fentanyl and the value of early warning - Matthew Young

**Co-authors:** Zachary Patterson, Bridget Hall

**Program Purpose:** This presentation will focus on information collected and disseminated by the Canadian Community Epidemiology Network on Drug Use (CCENDU) on the emergence of fentanyl, fentanyl analogues and other novel synthetic opioids for sale in the illicit marketplace. We will discuss the importance of a Canadian early warning monitoring and surveillance system to detect and disseminate reliable information on drug use and drug use trends across Canada.

**Target Groups:** Those working in harm reduction/health promotion, law enforcement, first responders, primary healthcare practitioners, treatment providers, people who use drugs, and others.

**Activities:** In July 2013, CCENDU issued an alert on the sale of fentanyl or fentanyl analogues in the illicit drug marketplace. In February 2014, CCENDU issued a second alert on the appearance of fentanyl powder that had been pressed into tablets in order to resemble oxycodone tablets. A year later, CCENDU issued a third alert indicating reports of increased incidences of fatal and nonfatal overdoses suspected or confirmed to involve illicit fentanyl. In August 2015, more than two years following the first alert, the network issued a bulletin on the increase in the number of deaths involving fentanyl in Canada between 2009 and 2014.

**Deliverables:** Alerts and Bulletins as described above

**Describe how this public health practice/program demonstrates innovation:** Information collected and disseminated by CCENDU is an example of a Canadian early warning system to detect and disseminate reliable, timely information on alcohol and other drug related har

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** In order to effectively develop and implement interventions to prevent and reduce harms associated with substance use, the systematic collection, analysis, interpretation, and dissemination of timely and accurate information is essential. This presentation will review lessons learned from a sentinel surveillance system and discuss how to increase dissemination of public health information moving forward.

**Impacts of an Unsanctioned Overdose Prevention Site in Toronto: A Preliminary Analysis - Gillian Kolla**

**Co-authors:** Nicholas Boyce, Zoe Dodd, Leigh Chapman, Matt Johnson, Sarah Ovens, Barb Panter

**Background:** Dramatic increases in opioid overdose mortality have led to rapid proliferation of supervised injection services - currently approved or open in 8 Canadian cities - for people who inject illicit drugs. Over 20 overdose prevention sites (OPS) have also opened, including sanctioned OPS in BC and unsanctioned ones in Ontario, to address overdose-related morbidity and mortality.

**Objectives:** This paper explores data from the first 4 months of operation of an unsanctioned OPS in Moss Park, Toronto, and examines issues involved in providing grassroots emergency health services in the absence of government resources.

**Methods:** Anonymous data on all people accessing injection monitoring from August 19<sup>th</sup> to November 30<sup>th</sup>, 2017 were collected and analysed, including age, gender, drugs injected, overdose frequency, and intervention during overdoses.

**Results:** 2933 visits to the injection tent occurred; 66.5% of clients were male, 33.5% female. Self-reported drugs being injected were: fentanyl (33.3%); heroin (20.0%); "down" (unspecified opioid) (15.5%); and hydromorphone (10.4%). Overdose occurred in 3.4% of all recorded injections; 52.2% occurred after fentanyl injection. Overdoses were treated with naloxone in 40% of the cases, and with oxygen, monitoring and/or stimulation in 60% of the cases. No significant gender difference was found in overdose rates. No one accessing the site died.

**Conclusions:** OPS are a low-barrier, low-cost method of intervening during a public health drug poisoning and overdose crisis. In the absence of a timely and effective federal exemption process, municipal and provincial health officials should consider OPS as a simple yet effective intervention to reduce opioid-related mortality.

**Describe how this research demonstrates innovation:** This is the first report of data from an unsanctioned OPS, run by volunteers with medical (physician, nurse and nurse practitioners), social work, and harm reduction backgrounds, including people with lived experience of drug use.

**Describe how this research informs change to future public health research, policy development and/or practice:** During a public health crisis, the establishment of OPS allows for rapid intervention to prevent overdose deaths, and is a feasible and effective response, even in settings lacking government support.

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**Identifying, piloting, and evaluating a real-time drug alert & response (RADAR) system in Vancouver, BC - Rebecca Thomas**

**Co-authors:** Jane Buxton, Sara Young, Heidi Griffey

**Objectives:** Accidental overdose fatalities may be avoided when individuals are aware of specific drug quality and potency issues and informed about overdose prevention and intervention strategies. The RADAR study aims to develop a system to facilitate timely and clear communication around drug overdose and contamination issues between Vancouver Coastal Health and the community.

**Methods:** The RADAR team conducted focus groups with people who use substances and key informant interviews with service providers across Greater Vancouver and the Sunshine Coast. Participants were asked about their current experience with alerts, preferences for the new system (e.g., what information about drug contamination risks should be provided, the best ways to report and receive drug alerts), and feasibility of implementation (e.g., their access to technology).

**Results:** Responses from the focus groups were varied. Participants from Vancouver's Downtown Eastside typically have limited access to technology, although many own a flip phone. Alternately, participants from other regions were more likely to own smartphones and would potentially use a mobile app to communicate alerts. This research indicated that a text message (SMS) system would be the most inclusive way to reach all audiences.



**Conclusions:** The SMS system was launched in July 2017 and currently has hundreds of participants subscribed to overdose alerts. On average, alerts are sent out every few weeks, depending on the drug supply. The project evaluation will begin in January 2018.

**Describe how this research demonstrates innovation:** Health Authorities in BC currently send out overdose alerts via email and posters. RADAR allows the community to send and receive drug information and harm reduction messaging in real-time.

**Describe how this research informs change to future public health research, policy development and/or practice:** RADAR explores: what type of technologies are available to the community; the difficulties of government developing, marketing and implementing a community-based tool; how a SMS system can inform the community about safety concerns in an opioid crisis; and if and what kind of overdose alerts are useful for preventing harm from contaminated drugs.

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### **Inter-disciplinary Administration/Dispensing/Distribution of Intramuscular (IM) Naloxone across Multiple Programs - Jessica Bridgeman**

**Co-authors:** Jacqueline MacKinnon, Paula Araujo, Kathy Williams, Kate Fish

**Background:** In response to the BC Opioid Overdose crisis and Public Health Emergency declared in 2016, Interior Health (IH) harm reduction and professional practice services collaborated to ensure immediate availability of Naloxone for administration/dispensing/distribution by regulated (Nursing and Allied Health) and unregulated providers across service areas.

**Issue and policy research:** To align with regulatory changes in BC drug schedules and regulated/unregulated healthcare provider practice, IH developed practice and training supports to ensure providers obtain competence to administer naloxone to manage an emergency opioid overdose (OOD) in hospital and non-hospital settings. All staff in Mental Health Substance Use (MHSU), Public Health, & Primary Care Clinics are trained to provide this service.

Leadership in in these programs endorsed mandatory on-line education modules.

**Analysis:** Deregulation of the drug Naloxone has had a positive impact on patient safety and saving lives in BC. The impact of rapidly changing policy on clinical practice required immediate attention and action to ensure support processes were in place for successful uptake in practice.

**Describe the current status of the policy:** The policy was implemented in December 2016 and remains active

**Future implications:** The success of this policy initiative has paved the way for similar collaborative initiatives where multiple disciplines are involved in moving practice forward when scopes of practice overlap.

**Describe how this policy alternative demonstrates innovation:** IH continues to put forward innovative policy/practice initiatives to support employees to obtain the related knowledge and skills to recognize and respond to a suspected OOD. By not limiting access to this de-scheduled drug, IH has improved access points in our care system to respond efficiently and appropriately to the needs of the clients served. The adoption this policy to support all staff to manage suspected OOD allows for improved patient care across a geographically vast landscape.

**Describe how this policy alternative informs change to future public health policy development, practice and/or research:** By expanding the range of professionals who participate in naloxone related activities this policy informs practice for future sites managing in an opioid overdose crisis.

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## Safety profile of injectable hydromorphone and diacetylmorphine for long-term severe opioid use disorder - Eugenia Oviedo-Joekes

**Co-authors:** Suzanne Brissette, Scott MacDonald, Daphne Guh, Kirsten Marchand, Scott Harrison, David Marsh, Aslam Anis, Martin Schechter

**Background:** For patients with long-term, severe, opioid use disorder not benefitting from oral opioid-agonist treatment (e.g., methadone, buprenorphine), the recent SALOME (Study to Assess Longer-term Opioid Medication Effectiveness) clinical trial found injectable hydromorphone to be as effective as diacetylmorphine.

**Objectives:** To describe the safety profile of hydromorphone and its relationship with treatment retention and dose in the context of a medically supervised program.

**Methods:** Participants were randomly assigned to injectable hydromorphone (n=100) and diacetylmorphine (n=102), prescribed and delivered double-blind in a supervised clinical setting, up to three times daily. Trained Registered Nurses assessed participants for adverse events (AEs).

**Results:** Over the 180 day study period, hydromorphone-assigned participants received 167 average days of treatment, a total of 41,027 injections, and an average daily dose of 261 mgs (from a max. allowed of 500 mgs). A total of 206 related AEs were reported in 48 participants, the most common of which included histamine reactions and over-sedation. There were no related seizures or mortality. There was no relationship between AEs and total days receiving treatment or dose.

**Conclusions:** Medically supervised injection-assisted therapy with hydromorphone is a safe treatment for severe opioid use disorder when prescribed properly, dosed precisely and administered under supervised conditions.

**Describe how this research demonstrates innovation:** The SALOME clinical trial is the first study to test the effectiveness of injectable hydromorphone. Findings suggest for the first time, that this is a safe treatment option for people with severe opioid use disorder.

**Describe how this research informs change to future public health research, policy development and/or practice:** In the context of an opioid overdose epidemic, injectable hydromorphone and diacetylmorphine could be timely second-line treatment options to reach a very important minority of people who inject street opioids and are not attracted to other treatments.

### ORAL PRESENTATION 6

Tuesday 29 May

10:45-12:15

Saint-Paul

#### Using a Whole of Government Approach to Remove Barriers for Individuals with Complex Needs in Northern Canada - Katie-Sue Derejko

**Background:** The theory of intersectionality suggests that inequities in populations with complex needs are shaped by interactions of various social locations. Two major barriers to wellbeing in this population are disconnected service provision and conflicting policies that guide services. Because individuals with complex needs are less likely to derive benefits from stand-alone interventions, programs require increased service integration.

**Program Purpose:** Integrated Case Management (ICM) is an interdepartmental, front-line, person-centered strategy for individuals with complex needs. It adopts a holistic approach to service integration, supporting individuals with on-going service adjustment and coordination. ICM supports the theory of change that if people with multiple complex needs receive holistic integrated services across departments they are more likely to achieve overall wellness.

**Target Groups:** Adults with complex needs that face barriers to service access and require various services across multiple departments.

**Activities:** ICM balances the acute concerns of individuals in crisis with sustainable systems change. This is achieved through a two-pronged approach of frontline person-centered case management as well as interdepartmental policy analysis and systematic tracking, analysis and removal of system barriers.

**Deliverables:** Outcomes suggest individuals with complex needs are more likely to engage with services through holistic approaches that address their most acute concerns (homelessness, food security) while simultaneously addressing ongoing concerns (substance use, trauma). Identifying and tracking barriers to services allows for adjustments within the system and results in more efficient and effective service delivery.

**Describe how this public health practice/program demonstrates innovation:** A WOG approach fosters interdepartmental collaboration to service provision for the most vulnerable within the population. Flexible program delivery, information sharing agreements across departments, and governance structures that create various levels of accountability create environments of service provision that enable increased wellness and self-sufficiency for people with multiple complex needs.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** Individuals with complex needs are often repeat and heavy users of services, and at times are described as a “burden” on the system. Using a WOG approach operationalizes a determinants of health model that more effectively integrates services and policies at a systems level, and results in more sustainable outcomes for individuals with complex needs.

### **Can local public health units and health care partners improve population health together? - Vera Etches**

**Co-authors:** Ruta Valaitis, Amira Ali, Anita Kothari, Lise Labrecque, Marc Lefebvre, Cal Martell, Sinéad McElhone, Nancy Murray, Ruth Sanderson, Louise Simmons

**Background:** Ontario’s Patients First Act (2016) requires public health units (PHUs) to work with planning agencies [Local Health Integration Networks (LHINs)] using a “population health” approach to plan health services that meet the community’s health needs.

**Objective:** To explore “What are the key elements for a successful collaboration between LHINs and PHUs, as required by Patients First legislation, to achieve an improved health system in Ontario informed by a population health approach?”

**Methods:** This mixed methods study engaged 68 participants in interviews and focus groups including board members, senior and middle management, and staff in Ontario LHINs, PHUs, government, relevant agencies, and key informants from other provinces. Broader input was gained through an online survey completed by over 300 Ontario respondents.

**Results:** LHINs and PHUs recognize the importance of health system planning through a population health lens. Both already are working together in partnerships through leadership councils, working groups, and local program planning to measure, monitor, report, and share data to determine priority community needs. Clarifying expectations, shared accountability, and funding supports are critical for successful LHIN-PHU collaborations. Survey results point to key strategies to overcome barriers and foster collaborations.

**Conclusions:** The study provides insight into intrapersonal, interpersonal, organizational, and systemic factors that promote successful LHIN-PHU collaboration. It prioritizes categories of population health and health system data, indicators, and information that could potentially strengthen LHIN-PHU collaborations, and offers solutions to overcome LHINs-PHUs collaboration barriers.

**Describe how this research demonstrates innovation:** Ontario is distinctive in Canada in that public health has remained outside of regional health care governance structures. This provides a unique lens to explore the best strategies to work collaboratively in health system planning using a population health approach.

**Describe how this research informs change to future public health research, policy development and/or practice:** With expanding roles of LHINs and the modernization of public health standards, this research informs

strategies for LHINs and PHUs to effectively work together to plan programs and services to best meet the unique needs of populations within Ontario communities.

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### **The necessary factors for effective social prescribing - Jessica Runacres**

**Background:** It's commonly understood that social, economic, and environmental factors impact on health and wellbeing. The term social prescribing is used to describe the range of services and treatment options that can provide benefits to individuals with poor health outcomes that are mostly attributable to socioeconomic factors. As Governments tackle the overuse of health services, the concept of social prescribing is growing in popularity as an opportunity to address underlying contributory factors to poor health, and to improve integration between sectors.

**Objectives:** To develop a novel understanding of key stakeholders' perspectives of social prescribing, specifically, the factors deemed necessary for its effective implementation.

**Methods:** The topic of social prescribing, specifically the participant's understanding of it, their attitudes towards it, and any concerns they had, was discussed with 18 GPs, 15 facilitators, and 18 service users during interviews and focus groups. These were voice recorded, transcribed, and then thematically analysed using Nvivo; Creswell's data analysis spiral was used to inform the analysis procedure.

**Results:** Results indicated that for effective implementation of social prescribing the following factors must be present: ease of access to services, availability of services, awareness amongst clinicians and service users, shared expectations, evidence of effectiveness, appropriate GP and patient attributes, necessary resources, use of appropriate terminology, and a combined medical and social model within healthcare.

**Conclusions:** Initial consultation with stakeholders indicated that social prescribing was being underused due to an absence of essential factors. This research identified a framework to establish successful services.

**Describe how this research demonstrates innovation:** This research has developed a framework for effective social prescribing services which incorporates the views of different stakeholders.

**Describe how this research informs change to future public health research, policy development and/or practice:** With no clear framework for social prescribing there is little guidance for services, this research can be used as a framework to develop new and existing services to ensure success.

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### **A "poisoned chalice"? How systems thinking was useful to study key factors that influenced health promotion in Australia - Lori Baugh Littlejohns**

**Co-authors:** Fran Baum, Angela Lawless, Toby Freeman

**Objectives:** Although systems thinking is called for in the health promotion literature there are few published applications. Incorporating the World Health Organization health system building blocks (leadership and governance, financing, workforce, service delivery/practice, and information) offers one approach and combining this with a study of feedback mechanisms presents a novel way to examine leverage points to strengthen health promotion policy and practice.

**Methods:** This study examines key factors that influenced health promotion policy and practice in a regional multisectoral health system in Australia. Data from a review of 20 state government strategic documents and interviews with 53 stakeholders was analysed to create a causal loop diagram identifying key factors and feedback mechanisms with respect to building blocks for health promotion.

**Results:** Leadership and governance was a critical and superordinate health system building block. Federal-state-local government roles, governance structures and policy directions figured prominently. All other building blocks were found to be integrally linked to the effective oversight of strong strategic policy directions for health promotion both within and outside the health sector.

**Conclusions:** Creating a causal loop diagram was useful to visualize key findings, their interdependence, causal pathways, and which feedback mechanisms offer leverage points to positively influence the health promotion context. Leverage points were: restore leadership and strategic policies in the health sector, strengthen processes and structures for intersectoral action, strengthen support for whole-of government approaches, make explicit the system goal for reducing health inequity, and ensure community participation in all policy and practice.

**Describe how this research demonstrates innovation:** Feedback mechanisms are considered to be important system leverage points and this study has gone some way to towards understanding their use in in relation to health promotion policy and practice.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research informs researchers, policy makers and practitioners about using system building blocks and causal loop diagrams identify leverage points for health promotion policy and practice.

**Healing Together: Identifying the value of partnerships between rural Australian Aboriginal communities, services and researchers to co-design, implement and evaluate programs to reduce substance-related harms - Alice Munro**

**Co-authors:** Anthony Shakeshaft, Courtney Breen, Julaine Allan

**Objectives:** To evaluate three examples of Aboriginal, community-based drug and alcohol programs to better understand the mechanisms of partnerships between academics and Aboriginal communities. **Study 1** examined the impact of a drug and alcohol radio advertising campaign in a remote setting. **Study 2** evaluated community-led programs implemented across four rural Aboriginal communities from 2012-2015. **Study 3** was a three-year community-based participatory research (CBPR) project with a remote Aboriginal drug and alcohol residential rehabilitation service.

**Methods:** **Study 1** used survey design; **Study 2** adopted a multiple baseline design (MBD) analysis of routinely-collected crime data; **Study 3** triangulated 5 years of service data and staff and clients interviews to develop a Healing Model of Care.

**Results:** **Study 1:** The radio advertising campaign increased community awareness but had a limited impact on formal help-seeking. **Study 2:** The trends indicated that the programs did not consistently reduce alcohol-related crimes; however, the MBD methodology was identified to be a rigorous approach for future Aboriginal community research. **Study 3:** Residential rehabilitation clients tended to be older, Aboriginal, criminal justice-referred and have a mental health problem. Interviews identified culture was highly valued, with the location, or "country," fundamental to the daily practice of, and access to, culture. The Healing Model of Care will help to strengthen future service-delivery in Australia and internationally.

**Conclusions:** CBPR offers a culturally-acceptable model in which academics can work in partnership with, not for, Aboriginal communities, to strengthen the quality of the research and, importantly, improve health outcomes for Aboriginal Australians.

**Describe how this research demonstrates innovation:** 1. This was the first evaluation of Aboriginal community-based programs to use a methodologically rigorous MBD. 2. The process of researchers working in partnership with a remote Aboriginal residential rehabilitation service to define, standardise and operationalise core treatment and organisational components has not been undertaken.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research makes a unique contribution as until Aboriginal communities are robustly conducting their own research or research in collaboration with academics, health outcomes, and importantly, healing, is unlikely.

## ORAL PRESENTATION 7

Tuesday 29 May

14:00-15:30

Duluth

**Non-linear association between objective physical activity and mental health in a population-based study of Canadian adults - Paquito Bernard****Co-authors:** Isabelle Doré, Ahmed-Jérôme Romain, Gabriel Hains-Monfette, Catherine M Sabiston**Background:** Although higher physical activity (PA) levels are associated with better mental health, previous findings about the shape of the dose–response relationship between PA and mental health are inconsistent. Furthermore, this associations may differ according to sedentary levels.**Objectives:** We investigated the cross-sectional dose-response associations between objectively measured physical activity and mental health in adults included in Canadian Health Measures Survey (CHMS). We also examined whether sedentary time modified the PA-mental health association.**Methods:** Physical activity and sedentary were measured using accelerometry in Canadians aged 20 to 69 years. Using data from CHMS (n=8150), generalized additive models (adjusted for socio-demographic and health behavioral factors) were fitted to examine associations between minute per day of moderate and vigorous PA (MVPA) and light PA (LPA), daily steps and self-rated mental health.**Results:** A significant curvilinear relationship between average daily minutes of MVPA and mental health was observed, with benefits until 50 min/day. For LPA, a more complex shape (monotonic and curvilinear) was found. For daily steps, inverted U-shaped curve suggested increasing benefits until 5000 steps. The tested PA-sedentary combinations showed that increasing sedentary time moderated the positive PA-mental health associations.**Conclusions:** Non-linear dose-response patterns between the PA characteristics and mental health were observed. These findings have important implications for public health, by highlighting that different PA modalities are associated with psychological benefits, not only MVPA. The results also suggest that PA-mental health associations could be hampered by sedentary.**Describe how this research demonstrates innovation:** This is the first time that data from representative national sample of adults has been used to explore the dose-response relationship between self-reported mental health and objectively measured PA.**Describe how this research informs change to future public health research, policy development and/or practice:** For better perceptions of mental health in Canadians: every daily minutes of MVPA counts until 50 minutes; more attainable benefits from LPA when combined with MVPA; every daily step counts and more than 5000 is Better; and “Move more and sit less” for improved mental health.**Is older adults' physical activity during transport compensated during other activities? A comparison between 3 countries using GPS and accelerometer data - Ruben Brondeel****Co-authors:** Rania Wasfi, Camille Perchoux, Basile Chaix, Philippe Gerber, Lise Gauvin, Lucie Richard, Benoit Thierry, Stine Hoy, Yan Kestens**Background:** The ‘Compensation’, ‘Independent’ and ‘Generalization’ hypotheses state that promoting physical activity during transport has a negative impact, no impact or a positive impact on non-transport physical activity, respectively. Since many transport interventions are evaluated by the transport behavior only, it is very important to know which hypothesis holds.**Objectives:** This study investigated the compensation/generalization hypotheses, using objective physical activity data for a large study population of older adults.**Methods:** The data from older adults (65+ years old) was collected in three countries (Canada, Luxembourg and France), using hip-worn GPS and accelerometer devices. Data from 738 participants were analyzed, with a

median of six valid days (10+ hours of wear time) per participant. Physical activity was measured as total volume of physical activity (counts per day). The time spent in transport was detected by a GPS-based algorithm. Within-person associations were tested with robust linear regressions on person-centered data.

**Results:** Participants median age was 77 years old and 50% of participants were women. From the total volume of physical activity, 18% was related to transport. Older adults with relatively low overall physical activity levels engaged in higher levels of physical activity in the hour following trips with higher than mean physical activity. However, the day after, they compensated the transport physical activity slightly. For older adults with relatively high levels of physical activity, the level of physical activity during transport was independent of non-transport physical activity (both direct and the day after). The results are relatively stable over the three countries.

**Conclusions:** The compensation or generalization hypotheses do not seem to be relevant in the evaluation of transport-related physical activity among older adults.

**Describe how this research demonstrates innovation:** This study is the first to investigate the compensation/generalization hypotheses for transport behavior, in the important subpopulation of older adults.

**Describe how this research informs change to future public health research, policy development and/or practice:** The compensation hypothesis has often been a reason to doubt the impact of transport interventions on physical activity. This study does not support the compensation hypothesis, at least for older adults.

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### **Income-related inequalities in falls injury hospitalizations in Canada: the case of seniors living with dementia - Alexey Dudevich**

**Co-authors:** Sheril Perry, Liudmila Husak, Allie Chen, Kelvin Lam

**Objectives:** The objective is to evaluate the degree of income-related inequality among Canadian seniors admitted to hospital for fall-related injury and to compare income-related inequality measures in two subpopulations – seniors living with dementia and seniors without dementia.

**Methods:** We used hospital administrative data housed at the Canadian Institute for Health Information to conduct the study. Patients 65 years of age and over admitted to an acute care bed for fall-related injury were identified as having dementia if respective ICD-10-CA codes appeared on their hospital abstract at least once over a four-year period. Income-related inequality measures were examined by five levels (quintiles) determined using average neighborhood-level income.

**Results:** In 2015-2016, the total number of hospital separations for fall-related injuries among seniors was 91,299 including 17,420 separations by seniors living with dementia (SLWD). Among SLWD, separation rates varied from 45 per 1,000 individuals in the lowest income quintile to 35 per 1,000 in the highest income quintile. Disparity rate ratio (DRR) was close to 1.27 and disparity rate difference (DRD) equaled 10. For comparison, disparity measures among seniors without dementia were slightly lower, with DRR=1.11 and DRD=1.5.

**Conclusions:** It is known that seniors at lower income levels are at increased risk of fall injury hospitalization than higher-income seniors. This study highlights the existence of even greater income-related inequality among seniors living with dementia. The results of this study may assist policy makers in developing interventions aimed at reduction of falls and fall-related hospitalizations among most vulnerable groups.

**Describe how this research demonstrates innovation:** This research uses innovative methodology of identifying seniors living with dementia in administrative data. It also employs recently developed inequality measures to provide an insight into disparities among certain populations.

**Describe how this research informs change to future public health research, policy development and/or practice:** Our findings will help to understand variability in income-related inequalities among seniors; support evidence based decisions and informed conversations, ultimately contributing to improved prevention measures.

**Impact of a mobility-focused knowledge translation intervention on physical activity in older adults: the Move4Age study - Rawan Farran**

**Co-authors:** Sarah Neil-Sztramko, Jenna Smith-Turchyn, Julie Richardson, Maureen Dobbins

**Background:** The McMaster Optimal Aging Portal (the Portal) was launched in 2014 as a knowledge translation (KT) tool to increase access to evidence-based health information. Based on monitoring of web and Google analytics, citizens are engaging with the Portal.

**Objectives:** To understand if and how dissemination of mobility information through the Portal impacts physical activity (PA) of older adults.

**Methods:** Participants (n = 510) were randomized to a 12-week mobility-focused tailored KT intervention or self-serve control group. The intervention included weekly email alerts and a study-specific social media hashtag linking to mobility-focused Portal materials. The control group was able to access the Portal on their own, but did not receive targeted KT strategies. Participants completed questionnaires (including the Rapid Assessment of Physical Activity to quantify PA) at baseline, end-of-study, and three-month follow-up.

**Results:** Participants were predominantly female (84.3%), mean age 64.7 years with no baseline differences between groups. Over half (54.3%) were classified as 'active' at baseline. Overall, both groups increased their PA ( $p < 0.001$ ) with improvements maintained at three-month follow-up ( $p < 0.001$ ). There was no significant between-group difference ( $p = 0.24$ ). In subgroup analyses, the KT intervention had a significant effect for those with poor/fair self-rated health ( $p < 0.01$ ).

**Conclusions:** Accessing the Portal appears to increase PA amongst older adults, with changes that are sustained beyond participation in a research study. Findings suggest that different KT strategies may be useful for different types of users, with more intense interventions being most impactful for certain groups (i.e., those with lower self-rated health).

**Describe how this research demonstrates innovation:** The Portal is an innovative tool available to all with computer and internet access which appears to result in improvements in health behaviours, and has the potential to impact health outcomes at a population level.

**Describe how this research informs change to future public health research, policy development and/or practice:** Existing evidence-based resources available through the Portal may be used by those in other areas of public health research and practice to promote changes in PA or other health behaviours.

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**The epidemiology of sensory and cognitive aging: social and lifestyle risk factors - Anni Hamalainen**

**Co-authors:** P. Mick, N. Phillips, M.K. Pichora-Fuller, W. Wittich

**Background (Optional):** As the population ages, maintaining health and independence are important aspects of how older adults function. Declines in hearing, vision and cognition are among the most prevalent age-related impairments in Western societies, but often go undiagnosed until functional limitations become severe. Each of these can have profound effects on activities of daily living, independent functioning, quality of life, and ability to participate in society.

**Objectives:** We assessed the associations of sensory impairment, social participation, socioeconomic and lifestyle risk factors with age-related decline in cognitive performance in community-dwelling older Canadians adults to identify potential targets for healthy aging interventions.

**Methods:** We analyzed data collected from 30 000 Canadians aged 45-85 years in the first wave of the Canadian Longitudinal Study of Aging (CLSA) on visual acuity, audiometry, performance in cognitive tests, and self-reported lifestyle factors. We quantified the population-level prevalence of vision and hearing loss and examined the associations between sensory and cognitive performance and social participation using multiple regression analyses.



**Results:** Nearly half (46%) of the participants had impaired hearing, vision, or both. Sensory and cognitive performance both decline with age ( $r=-0.35$  -  $-0.54$ ) and share socioeconomic and lifestyle risk factors. Furthermore, both sensory ( $P= <0.001-0.02$ ) and cognitive performance ( $P= <0.001$ ) are strongly associated with social participation and experiences of loneliness, suggesting that sensory and cognitive health should be considered in addressing social isolation as a priority.

**Conclusions:** From a public health perspective, new prevention and health promotion strategies could be developed, including sensory screening and initiatives to enable greater social participation by people with sensory impairments, especially those in lower socioeconomic groups.

**Describe how this research demonstrates innovation:** Age-related declines are often studied in isolation of the social context. Our approach sets sensory and cognitive impairments in the framework of social participation, necessary for assessing functioning of older individuals in society.

**Describe how this research informs change to future public health research, policy development and/or practice:** We aim to promote independent living of older adults by identifying high-risk populations and lifestyle factors with the largest impact on healthy aging, while providing demographics that can inform policy decisions and resource allocation.

## ORAL PRESENTATION 8

Tuesday 29 May

14:00-15:30

Van-Horne

### Hijacked and leveraged: A case study of alcohol industry sponsorship - Jonnie-Lyn Baron

**Co-authors:** Dan Steeves, Samantha Cukier

**Background:** Nova Scotia's culture of heavy alcohol consumption harms the health and well-being of the population. To reduce the social, economic and health burdens of heavy drinking, a cultural shift is required. The influence of the global alcohol industry in promoting and shaping an alcogenic environment is at odds with the health of the public.

**Issue and policy research:** A case study to examine the public understanding of the influence of alcohol industry sponsorship of community events was undertaken to determine next steps in suggesting adaptations to an existing municipal alcohol policy (MAP).

**Analysis:** As its premier sponsor, Diageo's Captain Morgan pirate theme brand 'hijacked and leveraged' an annual week-long, family-friendly waterfront festival in 2012 in Halifax, NS. Diageo received a prestigious Canadian Sponsorship award in recognition of their "capacity to use innovative leveraging methods for achieving corporate gains." Captain Morgan 'private stock' promotions included dominant point of sale ads in alcohol retail outlets, a 5,000-person party, scantily clad attractive females available for photos, contests for trip winnings and more.

**Describe the current status of the policy:** Public consultation with citizens in Halifax, NS revealed a counter-intuitive community perception of alcohol sponsorship as separate and distinct from alcohol advertising. Although *advertising* was seen as detrimental to the health of the public, *event sponsorship*, such as the sponsorship of the waterfront festival, would be considered acceptable.

**Future implications:** In all municipal policy documents, define sponsorship in practical terms: advertising that seeks to integrate and create associations between two groups; in this case, Diageo's Captain Morgan brand and a family-friendly festival.

**Describe how this policy alternative demonstrates innovation:** Invite alcohol control stakeholders, researchers, policymakers and health promoters to work towards closing the gap in the public's knowledge of alcohol industry sponsorship as alcohol advertising, as they are indeed one in the same.

**Describe how this policy alternative informs change to future public health policy development, practice and/or research:** Defines marketing terminology as it relates to public health policy; Identifies elements of alcohol industry sponsorship strategies; Describes details of a case study reflective of alcohol industry event sponsorship and the related community risks; Formulates recommendations for municipal alcohol policy related to community-level alcohol marketing

### **Estimating the harms and the economic burden of substance use in Canada - Matthew Young**

**Co-authors:** Tim Stockwell, Matthew M. Young, John Dorocicz, Scott MacDonald, Adam Sherk, Justin Sorge, Jinhui Zhao, Jill Fairbank, Bridget Hall, Pamela Kent, Sarah Wallingford

**Background:** There is currently a dearth of quality data on the harms and economic burden of substance use (SU) in Canada. The most current comprehensive assessment was the Rehm et al. (2006) study, *The Costs of Substance Abuse in Canada 2002*.

**Objectives:** To present estimates of the harms and the economic burden of SU in Canada. These estimates include direct health care use and costs, costs associated with production losses due to death short- and long-term disability, law enforcement use and costs, and other direct costs associated with SU in Canada.

**Methods:** Using the attributable fraction approach, the Canadian Centre on Substance Use and Addiction (CCSA) has been working in close partnership with the Canadian Institute for Substance Use Research (CISUR) to develop estimates of the costs and harms associated with alcohol, tobacco, cannabis, opioids, cocaine, amphetamines and other stimulants, and other drugs (i.e., hallucinogens, sedatives etc.) for the years spanning 2006 to 2015.

**Results:** This research is currently underway and results will be released in Spring 2018, in time for Public Health 2018.

**Conclusions:** Results will provide comparable, recent, and quality data on the harms and costs associated with SU in Canada. The findings have a wide range of applications in policy and programming across the country.

**Describe how this research demonstrates innovation:** These data will be made available to the public via a report and an accessible national online data analysis tool that will permit users to monitor harms and economic burden associated with SU for specific regions of the country or by subpopulation (e.g., age group, sex). This surveillance system will permit stakeholders to assess the impact of SU-related policies and programs designed to reduce harms and costs of SU.

**Describe how this research informs change to future public health research, policy development and/or practice:** Updated estimates of the harms and economic burden of SU in Canada will facilitate ongoing monitoring, and will be valuable for assessing the impact of policy change and the efficacy of interventions aimed at reducing these harms.

### **Cannabis Legalization: Industry and Regulatory Failure in the Protection of Public Health - Mike DeVillaer**

**Issue and policy research:** Research and surveillance have shown regulatory failure for our existing legal drug industries: alcohol (Geisbrecht, et al., 2006), tobacco (Cunningham, 1996; Mahood, 2013), and pharmaceutical (Dukes et al., 2014). Early indications summarized by DeVillaer (2017) suggest that cannabis is on a similar trajectory.

**Analysis:** Examples of specific failures:

- inadequate funding for medicinal cannabis research
- non-standard approach to dispensing medicine
- indiscriminate granting of production licenses
- disregard for advertising standards
- failures in accurate labeling, product quality

- disregard for patient safety and the law
- inadequate investor protections
- sabotage of public health initiatives
- tax evasion
- aligning product promotion strategies with violent criminal elements
- policies prioritize industry revenue over protection of public health
- non-disclosure of industry violations

**Describe the current status of the policy:** The Cannabis Act (Bill C-45) has been criticized for its emphasis on a criminal justice approach to managing cannabis use, while failing to ensure that the revenue interests of industry (and government) do not compromise the protection of public health.

**Future implications:** Many (mostly young) Canadians will continue to be criminalized. In contrast, permissive regulation of the emerging cannabis industry will fail to provide adequate protection of public health.

**Describe how this policy alternative demonstrates innovation:** Any failings of the Cannabis Act will be felt most profoundly at the level of our communities, neighbourhoods and homes. Municipal level public health authorities must devise local protections related to advertising, location and appearance of retail outlets, public use, etc. to attempt to contain the public health harm that is likely to arise from commercial legalization.

**Describe how this policy alternative informs change to future public health policy development, practice and/or research:** For years, the narrative on cannabis law reform centred on decriminalization of cannabis possession which research showed to be benign in public health impact. The rise of commercial legalization was relatively sudden and unexpected. As the narrative on decriminalization of other drugs unfolds, the experience with cannabis commercialization provides a cautionary tale.

### **Sex, gender and harm reduction responses to cannabis, tobacco and opioids - Lorraine Greaves**

**Co-authors:** Natalie Hemsing, Nancy Poole, Rose Schmidt, Lindsay Wolfson, Julie Stinson

**Background:** Incorporating sex and gender into harm reduction responses to the opioid crisis, the introduction of new cannabis policy, and new vaping products policy is needed.

**Objectives:** To present findings from a literature review on the impact of sex and gender related factors on harm reduction responses, and on gender-informed harm reduction interventions, to cannabis, tobacco & electronic nicotine delivery systems (ENDS) and opioid use.

**Methods:** Literature published between 2007 and 2017 on sex, gender and harm reduction responses to cannabis, tobacco and opioids was synthesized using a hybrid scoping review and systematic review methodology. Evidence from relevant studies was quality assessed, and key findings were narratively summarized.

**Results:** Despite substantial evidence indicating the need, tailored harm reduction interventions that integrate sex, gender and gender transformative principles are lacking. Key findings include: addressing pregnancy, parenting and child welfare concerns, and stigma reduction in the context of opioid use; harm reduction approaches to cannabis for youth, pregnant women and parents; and sex and gender differences in the effectiveness of ENDS as a harm reduction tool or tobacco cessation support.

**Conclusions:** Sex and gender factors need to be integrated in harm reduction initiatives on a range of substances. In particular, gender transformative initiatives seeking to address substance use and, at the same time transform and improve gender and health equity, are urgently required.

**Describe how this research demonstrates innovation:** Sex and gender factors affect substance use and harm reduction programming and policy, but are largely missing from current discussions of policy and practice responses.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research calls for a gendered harm reduction approach in practice and policy. These review findings will inform the development of knowledge translation interventions that integrate sex, gender and gender transformative principles, and will be piloted in three Canadian substance use service systems.

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**Proposed guidelines for metrics to evaluate the potential harms and benefits of cannabis regulation in Canada**  
- **Stephanie Lake**

**Co-authors:** Thomas Kerr, Daniel Werb, Rebecca Haines-Saah, Benedikt Fischer, Gerald Thomas, Zach Walsh, Mark Ware, Evan Wood, M-J Milloy

**Background:** The implementation of a regulatory framework for non-medical cannabis in Canada provides the opportunity to assess the effectiveness of drug policy based on public health and safety indicators rather than traditional measures of drug supply and demand.

**Objectives:** Through identification of common or emerging cannabis-related public health and safety issues, we sought to recommend a comprehensive set of metrics for the evaluation of cannabis regulation in Canada.

**Methods:** We searched five scientific databases to compile a list of cannabis-related issues of interest to public health and safety. We developed a set of indicators based on topics and themes that emerged. For each indicator, we also summarized preliminary evidence on the short-term impact of regulation on that indicator from jurisdictions that have reformed cannabis policy (i.e., decriminalized or legalized for medical/non-medical purposes).

**Results:** We identified 30 indicators under five broad themes: public safety; cannabis use trends; other substance use trends; cardiovascular and respiratory health; and mental health and cognition. We found little consensus on the effect of cannabis law reform on harmful public health and safety outcomes, and an emerging body of evidence to support potential public health and safety benefits (e.g., reductions in opioid use and overdose). Many indicators, including those linked to longer-term outcomes, have not yet been assessed in other jurisdictions.

**Conclusions:** Based on preliminary data from jurisdictions with reformed cannabis policy, we anticipate possible public health challenges in some areas and possible benefits in others. Canada's monitoring and evaluation system should consider the proposed indicators to inform comprehensive efforts to minimize harms and maximize benefits of legal cannabis.

**Describe how this research demonstrates innovation:** As Canada is set to become the first major industrialized country to legalize and regulate the use of cannabis, we offer the first comprehensive review to establish guidelines for evaluating the public health and safety impacts.

**Describe how this research informs change to future public health research, policy development and/or practice:** Our review provides an evidence-based and comprehensive framework for researchers and policymakers to adopt in their assessment of the public health and safety impact of cannabis legalization in Canada.

## ORAL PRESENTATION 9

Tuesday 29 May

14:00-15:30

Masnfield/Sherbrooke

**No Strings Attached: The Impact of an Unconditional Prenatal Income Supplement on First Nations Birth and Early Childhood Outcomes - Marni Brownell**

**Co-authors:** Mariette Chartier, Rhonda Campbell, Nathan Nickel, Jennifer Enns, Wanda Phillips-Beck, Dan Chateau, Elaine Burland, Bo Ram (Janelle) Lee, Joykrishna Sarkar

**Background:** In Manitoba, low-income pregnant women are eligible for the Healthy Baby Prenatal Benefit (HBPB), an unconditional income supplement.

**Objective:** To determine the impact of HBPB on First Nations (FN) newborn and early childhood outcomes.

**Methods:** A research partnership between Nanaandawewigamig and the Manitoba Centre for Health Policy (MCHP) used MCHP's Data Repository to identify all FN women giving birth, 2003-2010 (N=28,357). The majority (61.8%) were FN women living off reserve. To develop comparable groups of FN women receiving and not receiving HBPB, we included FN women receiving income assistance during pregnancy (n=7074); almost all were living off reserve. Propensity score weighting adjusted for differences between treatment (receipt of HBPB; n=5283) and comparison (no HBPB; n=1791) groups. Multi-variable regressions compared the groups on breastfeeding initiation, low birth weight, preterm birth, small- and large-for-gestational age, 5-minute Apgars, immunizations at 1 and 2 years, and developmental vulnerability at Kindergarten.

**Results:** Receipt of HBPB was associated with reductions in low birth weight (adjusted Relative Risk (aRR): 0.71; 95% CI: 0.63, 0.81), preterm (aRR: 0.76 (0.69, 0.84)) and small-for-gestational age (aRR: 0.90 (0.81, 0.99)) births and increases in breastfeeding (aRR: 1.06 (1.03, 1.09)) and large-for-gestational age (aRR: 1.13 (1.05, 1.23)). HBPB receipt during pregnancy was also associated with increases in 1- and 2-year immunizations (aRR: 1.14 (1.09, 1.19), and aRR: 1.28 (1.19, 1.36) respectively) and reductions in risk of being vulnerable on language and cognitive development in Kindergarten (aRR: 0.85 (0.74, 0.97)).

**Conclusion:** A modest unconditional income supplement during pregnancy was associated with improved birth outcomes, increased immunization rates, and improved development at kindergarten for FN children.

**Describe how this research demonstrates innovation:** Used existing program, health care and school readiness data to determine whether the program was associated with improved outcomes. The research represents a partnership between Nanaandawewigamig and MCHP to study whether programs in Manitoba are working for FN children and their families.

**Describe how this research informs change to future public health research, policy development and/or practice:** It is not necessary to place conditions on a prenatal income supplement for FN women to achieve positive outcomes.

**Principles for Indigenous Approaches to Fetal Alcohol Spectrum Disorder (FASD) Prevention: Enacting Truth and Reconciliation Commission's (TRC) Call to Action 33 - Nancy Poole**

**Co-authors:** Carol Hopkins, Kathy Unsworth, Rose Schmidt, Lindsay Wolfson

**Background:** In May 2017, experts working in FASD prevention and Indigenous health and wellness came together in Vancouver to discuss opportunities for collaboration on TRC Call to Action 33. That Call highlights the need to develop, in collaboration with Indigenous people, programming for preventing FASD. The session entitled *Dialogue to Action* received funding from the CIHR and Health Canada.

**Objectives:** This presentation will describe eight tenets for work on FASD prevention developed from the *Dialogue*, and highlight ongoing action on Indigenous wellness, mothering, and reconciliation in FASD prevention approaches for/with Indigenous communities.

**Methods:** Through a collaborative process during and after the one day meeting, participants identified principles necessary for enacting Call 33. The Consensus Statement reflects the perspectives of the participants, is grounded in available research evidence, and articulate with the First Nations Mental Wellness Continuum Framework.

**Results:** The Consensus Statement informs the development of Indigenous approaches to FASD prevention; affirms the role of Indigenous knowledge systems and holistic prevention approaches in addressing alcohol use in pregnancy; identifies the need for long-term sustainable funding and research, and promotes the ongoing collaborative commitment to reconciliation. Short booklets to guide community action in enacting the tenets have been developed.

**Conclusions:** The participatory and dialogic approach taken, the resulting Consensus Statement and community booklets provide an example of initial work toward ongoing collaborative action, as called upon by the TRC.

**Describe how this research demonstrates innovation:** This project integrates wisdom from FASD prevention research with Indigenous worldviews to recommend a wider view of FASD prevention that includes healing and rebuilding communities.

**Describe how this research informs change to future public health research, policy development and/or practice:** This work is an example of enacting a reconciliation Call to Action and outlines principles and practices to guide collaborative prevention of FASD with Indigenous communities.

### **Do Home Visiting Programs Improve the Well-Being of First Nations Children and Parents? - Mariette Chartier**

**Co-authors:** Marni Brownell, Ms Rhonda Campbell, Wanda Phillips-Beck, Jennifer Enns, Nathan Nickel, Elaine Burland, Joykrishna Sarkar, Dan Chateau

**Background:** Healthy Child Manitoba funds the province-wide *Families First Home Visiting Program (FFHV)* that provides home visiting to families with preschool children who are living in conditions of risk. While program planners and service providers use a strength-based and family centred approach and aim to be culturally safe, it remained unknown if First Nations families were benefiting from the program.

**Objectives:** To determine the effectiveness of the home visiting program at improving outcomes for First Nations children and parents.

**Methods:** Home visiting program data from 4,010 First Nations children and parents were linked to administrative data housed at the Manitoba Centre for Health Policy through a scrambled health identifier. Less than half of the families received the program (1,681) and the others did not (2,329). We compared the predictive probability of outcomes of program and non-program families. Inverse probability of treatment weights (IPTWs) were used to adjust for confounders which would be related to both entry into FFHV and the outcomes under study.

**Results:** FFHV is associated with higher rates of child immunization and parental involvement in support groups, as well as lower rates of being in care of child welfare, child victimization and maltreatment-related hospitalizations. However, the study provides no evidence that the program improved school readiness or maternal mental health.

**Conclusions:** Home visiting services can play a role in supporting the healthy development of First Nations children by providing support to their parents and connecting children to health and social services.

**Demonstrates innovation:** Using existing administrative and population-wide data is an important innovative practice in early childhood home visiting to understand programs that are scaled up across populations and delivery systems. This research was conducted in partnership with Nanaandawewigamig (First Nations Health and Social Secretariat of Manitoba) to guide the research questions and ensure appropriate interpretation.

**Informs change to future research, policy development, practice:** These results will inform policy development to improve the well-being of First Nations children and help guide program enhancements to improve child development at school entry and maternal mental health.

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**Exploring children's welfare — the case of families from Indigenous off-reserve, African Nova Scotian, and immigrant and refugee backgrounds - Sara Torres**

**Background:** Research indicates involvement in Child Protection Services has an effect on the health and wellbeing of children, families, and communities. Prevention of children being taken into care can be influenced by the availability of informal and formal support systems to their families and communities. But little is known about these systems in Nova Scotia.

**Objectives:** This presentation seeks to discuss the role that informal and formal support systems play in building the capacity of marginalized communities in preventing the entry or re-entry of children into state care.

**Methods:** We will interview participants from families, community groups, and child welfare agencies (n=24) to learn about strategies used in keeping families together, in building families' strength and resilience, and ultimately improving the health and wellbeing of communities.

**Results:** We will present preliminary results dealing with 1) the perspectives of staff/managers from community groups and child welfare agencies on areas including, child welfare policies, intercultural child protection knowledge, partnership and networking experiences, parenting practices, impact of social determinants of health, and practice models; 2) the perspectives of families from Indigenous off-reserve, African Nova Scotian, and immigrant and refugee backgrounds on issues including, cultural beliefs, housing, education, employment, parenting, past involvement with child welfare, discrimination, and the social connections available through formal and informal community networks.

**Conclusions:** Participants will learn how informal and formal support systems for families of marginalized communities potentially reduce the number of children taken into state care.

**Describe how this research demonstrates innovation:** This research is innovative because it is the first time in Nova Scotia that a team is examining the informal and formal support systems available for Indigenous off-reserve, African Nova Scotian, and immigrant and refugee families, and the positive potential role to mobilize communities to create supportive environments for children's welfare.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research informs future policy development because it seeks to identify and formulate preliminary recommendations for policies and programs to enhance informal and formal support systems to prevent entry or re-entry of children from marginalized Nova Scotia communities into state care.

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**To Have a C-section or Not? Understanding Planned C-section Experiences of Migrant and Canadian-born Women in Edmonton, Alberta - Priatharsini Sivananthajothy**

**Co-author:** Zubia Mumtaz

**Background:** Globally caesarean section (C-section) rates are exceeding recommended ranges, placing women at higher risk for complications. Evidence suggests migrant women to have higher C-section rates compared to Canadian-born highlighting an area of concern. Contrastingly the literature indicates women prefer to deliver vaginally leading us to question the degree to which women, especially migrants participate in decision-making.

**Objectives:** Our study explored how decisions to have planned C-sections were made, including the roles of women and obstetricians, the factors considered and whether migrant women's experiences differ from that of Canadian-born women.

**Methods:** A qualitative study using a focused ethnographic approach was conducted at a teaching hospital in Edmonton over a ten-month period. Migrant (N=64) and Canadian-born women (N=27) who had a higher risk of

C-section were included. Data were collected through observation of prenatal appointments (N=250), and postpartum in-depth interviews (N=44). Written informed consent was obtained from participants and ethics approval was received from the University of Alberta.

**Results:** Our findings reveal the decision-making process to be similar between Canadian-born women and migrants, with women being the primary decisions-makers for most planned C-sections. While both groups' decisions were based on medical factors, socio-cultural factors such as length of recovery and lack of social support had a larger effect on migrant women's decisions. A group of migrant women chose to have planned C-sections in order to overcome these barriers.

**Conclusions:** Our findings suggest that socio-cultural factors such as the lack of social support may inadvertently be contributing to the higher C-section rates experienced by migrant women.

**Describe how this research demonstrates innovation:** Both our novel study topic, C-section decision-making in migrant populations, and our use of participation observation, which is critical to uncover how women participate in decision-making, demonstrate innovation.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research informs practice changes in providers, including discussing the impact of socio-cultural barriers on women's C-section decisions and how such needs can be met.

## ORAL PRESENTATION 10

Tuesday 29 May

14:00-15:30

Crescent

### Is 'Health Equity' Bad for the Public's Health? A Qualitative Study of Public Health Policy-Makers' Perspectives - Maxwell Smith

**Objectives:** The principal objectives of this study were to understand public health (PH) policy-makers' perspectives on how two 'core values' in PH (health equity and social justice) are conceptualized in practice, and to examine the extent to which these perspectives align with how these concepts are conceptualized in the PH ethics literature.

**Methods:** Twenty in-depth, qualitative interviews with PH policy-makers recruited from PH organizations in Canada, analyzed using an 'empirical ethics' methodology that combines empirical data with ethical analysis involving theories of social justice.

**Results:** Study participants viewed health equity and social justice as distinct, and perceived the meaning of the former to be 'clearer'. Health equity was conceptualized as focusing on 'proximal' disparities in access to PH services and 'materialistic' determinants of health, whereas social justice was conceptualized as focusing on structural issues that lead to disadvantage, like sexism and racism. Health equity was characterized as 'neutral' and 'comfortable' whereas social justice was characterized as 'political' and 'uncomfortable'. Participants suggested that equity is easier to 'sell', as discussions of social justice are constrained by political sensitivities and a disinclination to confront personal biases and positions of privilege.

**Conclusions:** These findings indicate that health equity dominates the discursive space wherein justice-based considerations are brought to bear on PH activities. As a result, 'uncomfortable' justice-based considerations of power imbalances and systematic disadvantage can be eschewed in practice in favour of attending to 'proximal' inequities. These findings reveal the problematic ways in which considerations of justice and equity are, and are not, taken up in PH policy, which in turn may have negative implications for the public's health.

**Describe how this research demonstrates innovation:** This research combines social science research with explicit ethical analysis—using philosophical theories of social justice—to investigate so-called 'core values' in PH.



**Describe how this research informs change to future public health research, policy development and/or practice:** This research points to key areas in policy and practice where the operationalization of 'health equity' neglects the consideration of social injustices that perpetuate health inequities.

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**Improving timely care and access for Trans\* and Gender Diverse Populations in Primary Health Care in Halifax, Nova Scotia, Canada - Jacque Gahagan**

**Co-authors:** Kolten MacDonell, Kate Shewan, Tara Simpalli, The Improving Timely Access to Primary Health Research Team

**Background:** Despite an increase in data on gender dysphoria, suicidality, and general health promotion and wellness care amongst trans\* populations, barriers to primary health care continue to exist. Access to and use of the health care system by trans\* populations is regarded as important public health issue.

**Objectives:** The key study objectives were: i) the formation of an advisory committee to review, advise and assist in the development and implementation of recommendations to address barriers to primary health among trans\* populations, and ii) the development and validation of protocols in consultation with key stakeholder to reduce delays in care and related health outcomes for trans\* patients.

**Methods:** Both qualitative (in-depth interviews/focus groups) and quantitative (survey) data were collected from trans\* patients who have been, or currently are, on the wait list for gender transition readiness assessment and from primary health care providers to identify priorities, challenges and opportunities to improve care.

**Results:** Preliminary results suggest that more needs to be done within existing health systems and services to address challenges in access to and uptake of primary health care services among trans\* populations, including wait times for trans\* assessments.

**Conclusions:** Using a mixed methods approach, our data offer an overview of the ways in which primary health care can better understand and respond to the needs of trans\* populations, including addressing gaps and opportunities to improve care from the perspectives of patients, providers and health system leaders with a broad objective of enhancing appropriate and timely care for this patient population.

**Describe how this research demonstrates innovation:** The longstanding dearth of information on the primary health care needs of trans\* is an important issue for public health. Using a mixed methods approach allows for a more nuanced understanding of the complex individual and system-levels factors that contribute to wait times and overall satisfaction.

**Describe how this research informs change to future public health research, policy development and/or practice:** Understanding how to meet the primary health needs of historically marginalized populations such as trans\* populations has important implications for public health research in informing policy and practice.

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**Health Policy by the Homeless: Empowering the Marginalized to Become Policymakers through Research and Theatre - Rahat Hossain**

**Co-authors:** Natalie Ramsay, Mo Moore, Michael Milo

**Background:** Health and Equity through Advocacy, Research, and Theatre (HEART) is a research program aiming to improve equity in health systems by giving policy- and decision-making power to marginalized populations.

**Objectives:** To determine if research-based theatre is effective as a form of public and patient engagement in health policy development for marginalized populations.

**Methods:** Research-based, participatory theatre about barriers to care encountered by homeless individuals in the Niagara Region was produced as part of a quasi-experimental, three-armed non-randomized trial in St. Catharines, ON in November, 2016. This production was developed from a qualitative interview study with individuals who had healthcare interactions while homeless, and performed by a professional theatre company.

Homeless participants (approximately n = 36) improvised as actors in the play and attempted to resolve true-to-life barriers encountered by homeless patients when seeking healthcare. An expert panel generated policy ideas based on the improvisations, which were then presented for audience discussion, amendment, and vote.

**Results:** Two policy ideas were generated by members of the homeless community: 1) Mental health triage and 'wrap around' services in the emergency department, and 2) Mental health and homeless competency training for healthcare providers.

**Conclusions:** Our findings demonstrate that marginalized patients identify their problems, generate solutions, and lead policymaking when presented with the opportunity. Initiatives for 'patient-centered policy-making' could inspire policy reform for marginalized populations in public health.

**Describe how this research demonstrates innovation:** 'Patient-centered policy-making' may provide the basis for innovative action on the 'political determinants of health', influencing the social determinants of health, health status, and access to healthcare downstream.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research encourages a paradigm shift to viewing marginalized people as change agents and partners in the design of healthcare services. Public engagement techniques such as participatory theatre may allow marginalized communities to participate fully in public health policy development, thus reflecting their social position, lived experience, ways of knowing, and knowledge in the policies that shape their lives.

### **Sharing health information with community organizations to promote healthy living for all - Mustafa Hirji**

**Co-authors:** Cassandra Ogunniyi, Allison Branston, Nicole Andruszkiewicz

**Background:** This project is a Locally Driven Collaborative Project funded by Public Health Ontario.

**Objectives:** To identify how Local Public Health Agencies (LPHAs) can best select, analyze and distribute health data to local community partners to enable them to advance health equity for their target populations.

**Methods:** The results from a literature review and a survey of community partners shaped an evidence brief, which informed a deliberative dialogue with community partners. The dialogue identified barriers, potential solutions, and implementation considerations related to data sharing. A pilot was conducted in which population health data was shared with three community partners. Results from the project were used to develop a guidebook for LPHAs to facilitate data sharing with their community partners.

**Results:** Identified barriers related to data sharing include a lack of capacity, absence of a universal way to share data and unfamiliarity with data privacy legislations. Recommendations to improve data sharing initiatives included developing: an inventory of data community partners can access, a comprehensive data sharing strategy, including standardization of health equity data collection from clients, and an online database/reservoir to share data across organizations.

**Conclusions:** Potential solutions to sharing health data between LPHAs and community partners include addressing issues of capacity, communication, and defining mutual goals.

**Describe how this research demonstrates innovation:** This research identifies new ways to facilitate sharing health data between LPHAs and their local community partners. This includes developing promising practices and alternative methods to create better data sharing processes.

**Describe how this research informs change to future public health research, policy development and/or practice:** The project informs public health practice related to data sharing with community partners. The final guidebook clearly describes the processes of selecting, analyzing, and sharing relevant health data based on the needs of community partners in a method that aligns with evidence in the literature and primary research conducted with community partners.

## ORAL PRESENTATION 11

Tuesday 29 May

14:00-15:30

Notre-Dame/Saint-Denis

**Understanding Gentrification in Resident-Led Urban Health Interventions - Kayonne Christy**

**Background:** The *Neighbourhood Action Strategy (NAS)* is a resident-led urban health intervention aimed at addressing health outcomes in 11 neighbourhoods across Hamilton, Ontario. Residents partner with community developers, municipal staff, and service providers to ‘improve’ their communities by addressing neighbourhood priorities. NAS successes have increased the desirability of many neighbourhoods, who are now experiencing an influx of middle-class homeowners, and subsequently displacing long term, lower-income tenants in a prototypical gentrification process.

**Objectives:** To explore perceptions of gentrification from different *NAS* actors (residents, service providers, and city staff), focusing on the institutional actors who fund the strategy.

**Methods:** Data was derived from a qualitative developmental process evaluation, including: (a) 4 years of observation of monthly “planning team” meetings in each *NAS* neighbourhood; (b) 117 interviews with *NAS* actors, and (c) focus groups with planning tea

**Results:** Thematic analysis revealed that *NAS* actors understood gentrification in terms of neighbourhood change and displacement. Stakeholders acknowledged social and material changes occurring in many *NAS* neighbourhoods; however, perceptions of gentrification and its impacts varied between actors. Both long-term and newer residents recognized displacement as a problem: the former expressed significant concern; the latter tended to be more complacent. Institutional actors acknowledged the possibility of resident displacement, however, the dominant sentiment was that neighbourhoods are “improving.”

**Conclusions:** *NAS* actors saw little reason to intervene and felt they had limited scope or mandate to do so, despite concerns that gentrification was leading to the displacement of the neighbourhoods’ most vulnerable.

**Describe how this research demonstrates innovation:** By exploring the perceptions of gentrification held by different *NAS* actors, we highlight how urban health interventions can potentially influence the (re)production of health inequities by facilitating gentrification and displacement.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research invites public health policymakers and researchers to consider new ways multi-stakeholder interventions can better respond to health outcomes experienced by marginalized residents in rapidly gentrifying cities.

**Building Health through Planning Data: the Healthy Development Monitoring Project - Maria Mukhtar**

**Co-author:** David Guillette

**Background:** The Region of Peel’s Public Health and Planning Departments have established a health-supportive land-use policy framework, the Regional Official Plan Amendment 27 (ROPA 27) which integrates health considerations into the planning approvals process. Effective evaluation of ROPA 27 requires the ability to measure progressive change in Peel’s built form.

**Program Purpose:** The Healthy Development Monitoring Project measures the health-promoting potential of the existing built environment across Peel’s three local municipalities, and monitors changes to the built form, over time. Land-use and transportation data is used to create the Healthy Development Monitoring Map (HDMM) which contains neighbourhood-level GIS-based indicators that are grounded in evidence-informed built environment elements that increase the potential for active transportation.

**Target Groups:** Public Health, Planning departments and elected officials will use the HDMM to monitor the Region’s progress in building active transportation supportive infrastructure.

**Activities:** Twenty evidence-informed built environment indicators that are known to be associated with health and walkability were created. These indicators provide a point-in-time assessment of the built form and will be re-run every five years to demonstrate where measurable change has occurred.

**Deliverables:** The HDMM is an interactive map that displays both the data for the 20-built environment indicators and a score capturing current health-supportive infrastructure, by neighbourhood.

**Describe how this public health practice/program demonstrates innovation:** The HDMM is the first built environment monitoring tool to be developed at the scale of a Regional municipality. The HDMM demonstrates considerable progress in producing objective built form indicators and is novel as it integrates census, land-use and transportation data from three area municipalities into a comprehensive set of empirically-derived measures.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** The HDMM has been purposefully created to inform changes in future land-use planning by quantifying health-supportive built form elements. The HDMM provides decision-makers with objective measures to identify sites of possible policy intervention and aids in evaluating these interventions over time.

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### **Co-creating Smart Healthy Cities using the Living Labs approach of United Nations Committee on Peaceful Uses of Technology - Chandana Unnithan**

**Co-authors:** Paola Ardiles, Shannon Turner

**Background:** As engaged/active practitioners in public health and informatics, we propose a the implementation of this model to address the gaps in smart city implementation.

**Program Purpose:** To understand and evaluate the integration gaps in delivering engaged public health initiatives for building the smart cities.

**Target Groups:** Citizens in the relevant communities, business stakeholders in ICT, City Council, Hospitals, and Universities.

**Activities:** Obtain citizen insights through a location-based citizen (Web rendered) engagement platform; collection of data and analysis to build a knowledgebase with gaps identified, and potential solutions; and evaluation via citizens through interactive infographic/visualization.

**Deliverables:** A knowledge database of citizen insights from the communities living in the council; an infographic to be communicated to all target groups; and an interactive web based visualisation that is modifiable with active participation of citizens

**Describe how this public health practice/program demonstrates innovation:** The use of a current platform (PlaceSpeak) will be able to reach out to all the citizens living in the community via mobile devices. Conversely, GIS techniques are applied with public participation, for collecting and dissemination of community owned information and visualizing techniques to enable participation, identifying the needs of respective stakeholders.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** City councils have initiated many successful projects with the social innovation agenda, but they seem fragmented. We propose the Living Labs framework, a user- centered multidisciplinary problem-solving approach which allows all stakeholders to consider strategies from different perspectives, enabling the potential adoption by users in real life environment and sustained acceptance in communities. The United Nations Committee on Peaceful uses of Space focuses on using the Living Labs approach.

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**INTERACT: A Comprehensive Urban Intervention Research Framework for Healthy and Sustainable Cities - Yan Kestens**

**Co-authors:** Meghan Winters, Daniel Fuller

**Objectives:** For urban interventions to contribute shaping healthier cities, comprehensive evaluation and research frameworks are required. We here present the INTERventions Research and Action in Cities Team (INTERACT) framework, tools, and research agenda to illustrate the potential of urban intervention research across Canada.

**Methods:** We present the theoretical framework guiding the INTERACT program, as well as the tools that have been developed and applied to collect data on the context of interventions, the tracking of built environment changes and of population dynamics through use of online map-based questionnaires, smartphone applications and wearable sensors. We discuss the challenges and opportunities of resulting big data analytics, and opportunities for knowledge mobilization and exchange.

**Results:** INTERACT is applying this framework and tools to analyse urban interventions in four Canadian cities. Illustration of processes and preliminary results will be shared, underlining the opportunities and potential pitfalls of urban intervention research making use of novel data collection methods.

**Conclusions:** Visions of healthy and sustainable cities drive current urban developments and interventions, offering an opportunity for improved and useful population health intervention research. It is important that future research resorts to strengthened conceptual and methodological approaches that will provide useful evidence for future planning of healthy and sustainable urban environments.

**Describe how this research demonstrates innovation:** This research is innovative in that it proposes a number of advanced and technologically savvy methods – including the use of smartphone applications or wearable sensors for objective and within-day data collection among populations - to improve the measure and analysis of urban interventions and their effects on health and health equity.

**Describe how this research informs change to future public health research, policy development and/or practice:** With current investments in infrastructure and cities' visions of sustainability, the INTERACT framework and tools offer interesting opportunities to strengthen urban intervention research. The proposed model can be scaled up and used across cities who aim to evaluate how their investments translate into improved health outcomes for all.

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**Recruiting participants for a cohort study on the health impacts of an urban form intervention: Lessons learned - Karen Laberee**

**Co-authors:** Meridith Sones, Trisalyn Nelson, Yan Kestens, Daniel Fuller, Meghan Winters

**Background:** The INTERventions, Research, and Action in Cities Team (INTERACT) is a national research collaboration interested in understanding how changes to the built environment impact the health and well-being of Canadians. We are undertaking natural experiment studies of urban form interventions in four cities. We share strategies, results, and lessons learned from recruitment efforts at our first INTERACT site—Victoria, BC—where we are examining the impact of an All Ages and Abilities(AAA) Bike Network.

**Objectives:** Our objectives were to 1) recruit a cohort of adults who bicycle at least once per month in the City of Victoria; and 2) describe the characteristics of the cohort and study participation.

**Methods:** Recruitment for a five-year longitudinal study occurred over six months in 2017. Tactics included social media, street-level marketing, peer recruitment, prize draw, and tables at community events. Participants were expected to complete two online surveys, and the option to provide location and activity data using a smart phone app and/or wearable device.

**Results:** We recruited 310 participants (51% female) from Victoria and surrounding municipalities. Messaging was tailored to less-represented sub-groups midway through recruitment, improving participant diversity.

Recruiting people who cycle only occasionally remained a challenge. 158 participants (57%) chose to use the app, while 165 participants (53%) wore an accelerometer for 10 days; 97 (31%) did both.

**Conclusions:** Recruitment and participant management at our first INTERACT site will inform recruitment cohorts to study urban form changes in three other cities in 2018, as well as other studies.

**Describe how this research demonstrates innovation:** We are evaluating and refining a novel suite of tools for intersectoral urban form and health research.

**Describe how this research informs change to future public health research, policy development and/or practice:** INTERACT is filling a critical research gap evaluating how investments in urban infrastructure will impact the health and well-being of Canadians.

## ORAL PRESENTATION 12

Tuesday 29 May

14:00-15:30

Sainte-Catherine

### **Making a case for cardiorespiratory fitness surveillance among children and youth - Justin Lang**

**Co-authors:** Grant Tomkinson, Ian Janssen, Jonatan Ruiz, Francisco Ortega, Luc Léger, Mark Tremblay

**Objectives:** To review the evidence that supports cardiorespiratory fitness (CRF) as an important indicator of current and future health among school-aged children and youth, independent of physical activity levels. We also aimed to discuss the merit of CRF measurement for public health surveillance.

**Methods:** We conducted a narrative review of CRF studies in children and youth, focusing on several categories. First, we identified population-based CRF measurement, and how this differs from physical activity measurement. Second, we reviewed evidence describing the association between CRF and both current and future health, as well as available CRF standards to distinguish healthy versus unhealthy CRF levels. Third, we described the population-based utility of CRF surveillance by highlighting examples of studies that compared temporal trends in CRF and CRF levels between countries. Last, we identified novel areas where CRF surveillance could take place in scientific research, physical education, and clinical settings.

**Results:** This narrative review highlights the feasibility of implementing CRF as a way to study the link between physical activity and health at the population level. CRF was identified as a favourable approach to understand and monitor the health of children and youth. The population-based measurement of CRF could be a novel surveillance strategy to evaluate the impact of healthy public policies and program

**Conclusions:** CRF could be used as an effective indicator for public health. Future work is needed to establish evidence-based CRF guidelines to help standardize measurement approaches while increasing the public knowledge and awareness of the importance of CRF for health in children and youth.

**Describe how this research demonstrates innovation:** Currently, Canada does not measure CRF as a public health surveillance indicator. This presentation will provide insight into how CRF can be used to enhance population health monitoring.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research could help inform the adoption of CRF surveillance in public health. This method could be used to monitor and evaluate the impact of healthy public policies and program

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### **Precipitation, demographics and built environment features are associated with sedentary behaviour in 9-14-year-old children—the longitudinal study on Seasonality and Saskatoon Kids (SASK) - Larisa Lotoski**

**Co-authors:** Nazeem Muhajarine, Daniel Fuller, Kevin Stanley, Daniel Rainham, Tarun Katapally

**Objectives:** This longitudinal study seeks to establish: a) How changes in weather conditions affect total daily SED in children, and b) How SED effects are moderated by urban design.

**Methods:** Families with children aged 9-14 years were recruited from the prairie city of Saskatoon, Canada (n=816; population 260,000). Location-specific SED was measured in children over three time frames (Sept-Dec 2014; Jan-April 2015; May-Sept 2015) using GPS equipped accelerometers. Neighbourhood level built environment (BE) features were assessed using multiple audit tools. Using the random intercept model a multilevel modeling approach was taken to understand the relationship between weather conditions, demographics, BE and total daily SED of children.

**Results:** On average, children with valid accelerometry data accumulated 4.5 hours of sedentary time per day. In a multilevel model higher total daily precipitation was significantly associated with increased levels of SED ( $p=0.0229$ ), but differentially moderated by BE universal accessibility ( $p<0.05$ ). Increased levels of both light and moderate-to-vigorous physical activity (PA) were negatively associated with increased accumulation of SED ( $p<0.0001$ ). With increased age, the level of SED increased at a greater rate in females, in comparison to males ( $p=0.0068$ ). Pedestrian access was positively associated with reduced sedentariness in females, but increased sedentariness in males ( $p=0.0157$ ).

**Conclusions:** Disruptive positive interventions to minimize SED in both boys and girls, especially as they age, may provide the greatest benefit when done so in our youngest populations.

**Describe how this research demonstrates innovation:** The simultaneous examination of both weather conditions and the built environment in a 1 year longitudinal setting is unique to our study. Focus on SED, and taking into account light and moderate-to-vigorous PA are also not commonly done in previous research.

**Describe how this research informs change to future public health research, policy development and/or practice:** This project will shape infill and new urban development projects by providing necessary information to relevant public health policy architects. This study provides greater and more nuance detail about BE, weather and sedentariness/activity that helps urban transformations (healthy cities).

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### Examining weight loss method engagement among young adults in Canada - Amanda Raffoul

**Co-author:** David Hammond

**Background:** Weight loss attempts are common among young adults, and American studies show that the healthfulness of these behaviours differs by gender, weight, and race/ethnicity. Although public health policies encourage the use of healthful weight loss methods, using multiple and/or unhealthy behaviours has been associated with increased risks of weight gain and disordered eating.

**Objectives:** To examine the prevalence of weight loss methods among Canadian young adults, and differences in use of these methods by demographic characteristics, health literacy, and perceived body size.

**Methods:** We explored data from the 2016 Canada Food Study, comprised of self-reported information from 3000 young adults in five cities. Linear regression models were conducted to investigate correlates of the number and type of weight loss methods used, categorized as 'dietary changes', 'physical activity', 'assisted weight loss methods', and 'unhealthy behaviours'.

**Results:** Over half of the sample reported a weight loss attempt in the past 12 months, and nearly one fifth engaged in an unhealthy weight loss method. Women, individuals with non-binary gender identities, and individuals who perceived themselves as overweight or obese were more likely to engage in a greater number of weight loss behaviours across categories. Individuals with lower health literacy scores engaged in significantly fewer healthy weight loss methods and a greater number of unhealthy methods.

**Conclusions:** Although many young adults engage in healthier weight loss strategies, a concerning number use unhealthy weight loss methods. Subgroup differences exist in healthy and unhealthy weight loss method engagement, which holds significance for public health efforts targeting weight change.

**Describe how this research demonstrates innovation:** There is no known research investigating specific weight loss methods among Canadian young adults that has highlighted the general healthfulness of self-reported weight loss attempts.

**Describe how this research informs change to future public health research, policy development and/or practice:** These findings are significant for public health initiatives striving to encourage engagement in healthy weight-related behaviours. Specific sub-populations engage in a greater number of unhealthy weight loss behaviours, highlighting the need for policies that target these high-risk groups.

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### **Adverse effects of caffeinated energy drinks among youth and young adults in Canada - Jessica Reid**

**Co-authors:** David Hammond

**Objectives:** This study examined adverse events from energy drinks among a population-based sample of youth and young adults in Canada. Adverse events from coffee were also assessed for comparison, given that caffeine consumption from coffee has been used as the reference in risk assessments for energy drinks.

**Methods:** An online survey was conducted in 2015 with a national sample (n=2,055) of youth (aged 12-17) and young adults (aged 18-24) recruited from a consumer panel. Respondents reported prior consumption of energy drinks and coffee, as well as adverse outcomes, concurrent activities associated with the outcomes, and whether medical attention was sought. Differences in the prevalence of adverse events for energy drinks and coffee were tested using Generalized Estimating Equations modeling.

**Results:** Overall, 55.4% of those who had 'ever' consumed an energy drink reported an adverse event, including 'fast heart beat' (24.7%), 'difficulty sleeping' (24.1%), 'headaches' (18.3%), nausea/vomiting/diarrhea (5.1%), 'chest pain' (3.6%), and 'seizures' (0.2%). Among energy drink consumers, 3.1% had sought or considering seeking medical help for an adverse event. Among consumers, the prevalence of reported adverse events was significantly greater for energy drinks than for coffee (OR 2.67, 95% CI 2.01-2.56), as was the proportion who reported either seeking or considering seeking medical help for adverse events (OR 2.18, 95% CI 1.39-3.41).

**Conclusions:** More than half of youth and young adults who had consumed energy drinks reported adverse outcomes, and 5% of all users either sought or considered seeking medical help. Adverse outcomes are consistent with the physiological effects of caffeine, but significantly more prevalent than other sources of caffeine such as coffee, consistent with national adverse event databases.

**Describe how this research demonstrates innovation:** The current study is the first population-based assessment of adverse effects of energy drinks in Canada.

**Describe how this research informs change to future public health research, policy development and/or practice:** In 2013, energy drinks were reclassified under the Food & Drug, and the government is responsible for reviewing the safety of energy drinks as part of the 'temporary market authorization' provided to energy drinks. The current evidence has the potential to inform this review.

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### **Understanding children's perceived barriers to physical activity in varying environments - Leah Taylor**

**Co-authors:** Andrew Clark, Jason Gilliland

**Background:** The declining levels of physical activity (PA) among Canadian children have been identified as a national public health crisis due to the associated increases in juvenile health risks. Researchers suggest children's perceptions of their outdoor neighborhood environments may be equally as important as the environmental influences alone, for predicting PA.

**Objectives:** The objective of this study is to demonstrate how the intrapersonal, interpersonal, and physical environment levels of the socio-ecological framework influence children's perceptions of barriers to PA.



**Methods:** This work draws on a longitudinal population based study which collected data on 916 children in Southwestern and Northern Ontario communities. Using a series of binary logistic regression models to measure the relationship, survey data was analyzed to interpret the relationship between children's perception of barriers and their varying environments.

**Results:** At the intrapersonal environment level, older children, girls, and visible minorities were more likely to report significant barriers to PA than their counterparts. At the interpersonal level, children whose mother was employed or lived in lone parent households reported the most barriers. At the physical environment level, as population decreased the number of reported barriers increased.

**Conclusions:** The results will demonstrate how children's PA perceptions are most impacted by their environments, and provide recommendations for practitioners and researchers for focusing health promotion efforts to most effectively impact children's PA levels.

**Describe how this research demonstrates innovation:** This study considers the intrapersonal, interpersonal, and physical environments in which children are reporting barriers. Additionally, this study incorporates a five level urbanicity spectrum in the Canadian context. By targeting interventions to specific subgroups through the identification of barriers, more efficient and cost effective health promotion strategies to impact the PA levels can be employed.

**Describe how this research informs change to future public health research, policy development and/or practice:** This work provides a basis to investigate the influence of barriers on PA based on what children perceive as important. This presentation will conclude with recommendations for practitioners and researchers, for targeting future work and interventions.

## ORAL PRESENTATION 13

Tuesday 29 May

14:00-15:30

Saint-Paul

### **Opportunity costs: Underemployment, a determinant of mental health inequities between immigrant and Canadian-born labour force participants - Farah N. Mawani**

**Objectives:** To examine the association of underemployment (operationalized as unemployment or overqualification) to fair/poor self-rated mental health (SRMH) in: 1. labour force participants (18-64yrs) in Canada, and 2. between a. immigrants vs. Canadian-born labour force participants, and b. recent immigrant (< 10 years in Canada) vs. long-term immigrant (≥ 10 years in Canada) labour force participants.

**Methods:** This study employs data from the Canadian Community Health Survey (CCHS) 2.1, a cross-sectional survey conducted in 2003. The study sample included 53 409 labour force participants aged 18-64 (excluding full-time students and those with long-term physical or mental conditions limiting work activity). Logistic regression analyses were performed to estimate odds ratios associating underemployment with fair/poor self-rated mental health for the full study sample, then stratified by a. immigrant status, and b. length of time in Canada. Data was weighted to reflect the CCHS 2.1 sample design, adjustments for nonresponse, and post-stratification.

**Results:** Underemployment was positively associated with fair/poor mental health for the overall sample of labour force participants in Canada. In analyses stratified by immigrant status, the association of unemployment to fair/poor mental health was similar (Canadian-born AOR 2.60; Immigrant AOR 2.42), but there were differences apparent in the association of overqualification to fair/poor self-rated mental health between Canadian-born and immigrant respondents. There was a significant association of overqualification to fair/poor mental health for immigrants (AOR 1.63), but not for Canadian-born individuals (AOR 1.03), and differences between the groups were significant.

**Conclusions:** The finding suggest a different experience of overqualification, and the need for tailored interventions for immigrant labour force participants.

**Describe how this research demonstrates innovation:** It highlights underemployment as a socioeconomic status measure of particular importance to reducing mental health inequities between immigrant and Canadian-born labour force participants.

**Describe how this research informs change to future public health research, policy development and/or practice:** It suggests the need for a whole of government approach to minimize systemic exclusion of immigrants selected based on their education and experience.

### **Working Well Together: A Workplace Health Promotion Initiative - Vamini Selvanandan**

**Background:** Recent immigrants to Canada are more likely to work in precarious, low-wage jobs at hotels, restaurants and factories. Hotel and restaurant workers have higher rates of occupational injury and illness than workers in other service sectors. Immigrants suffer from work-related physical and mental health problems that can be compounded by discrimination, underemployment and lack of knowledge of workers' rights.

**Program Purpose:** To improve the work-related health of immigrant workers in the hospitality sector by creating inclusive workplaces and decreasing work-related injuries through empowerment, education and training.

**Target Groups:** This program targets the large population of immigrants who work in the hospitality sector in the Bow Valley (Lake Louise, Banff, Canmore and Kananaskis) many of who are recent arrivals and work in entry-level, physically demanding jobs.

**Activities:** 1. Forming a steering committee consisting of immigrant workers and representatives of partner community organizations. 2. Assessing work-related health problems in the hospitality sector in the Bow Valley. 3. Holding educational sessions on workers' rights and injury prevention. 4. Development, implementation and evaluation of the Bow Valley Inclusion Charter, a tool to promote inclusive and empowering practices in the workplace.

**Deliverables:** Deliverables include quantitative and qualitative assessments of work-related health problems in this population; workshops on employment standards, injury prevention and foreign credential recognition; dissemination of information on accessing free language classes and workplace social skills training; and audit and recognition of employers who have implemented inclusion commitments made under the Bow Valley Workplace Inclusion Charter.

**Describe how this public health practice/program demonstrates innovation:** This health promotion initiative defines health broadly as physical, mental and social well-being including job satisfaction, personal development and successful integration into Canadian society and uses the concepts of inclusion and empowerment to improve immigrant worker health.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** This program will be used to inform occupational health and safety policies in the hospitality sector and provides employers with tools to increase inclusion, empowerment and skills development among immigrant workers.

### **The experiences of newcomer Syrian refugees and service providers with a new Refugee Preventive Health Clinic model - Sharon Yanicki**

**Co-authors:** Vivien Suttorp, Daniel Dutton, James Sakeah

**Background:** The federal government's policy of rapid resettlement of Syrian refugees resulted in a sudden surge of new refugee arrivals in 2016. This study explored the experiences of newly arrived Syrian refugees, health professionals and immigrant services staff with a new refugee preventive health clinic model (Jan-March 2016) in Lethbridge, Alberta.

**Objectives:** This presentation will describe: a) A novel model for providing refugee preventive health services in a community without an established refugee health centre; b) Themes from focus groups (i.e. issues of cultural

safety, health equity and the new clinic model);and c) Implications for small urban centers responding to a surge in new refugees.

**Methods:** An exploratory descriptive qualitative study was completed in 2017 (part of a mixed methods study). Two talking circles were conducted with newcomer Syrian refugees (separate groups for men and women) utilizing Arabic interpreters, and three focus groups were completed with service providers.

**Results:** Syrian refugees reported feeling respected for their culture/religious customs and having access to multidisciplinary clinic-based services and primary care physicians soon after arriving in Lethbridge. Health professionals described training and strategies to accommodate cultural and religious customs and reported both the benefits and challenges of a shift from a single service model to a multidisciplinary large group service model. Settlement workers and interpreters described both benefits and some challenges in partnering to support new refugees at refugee health clinics.

**Conclusions:** Overall, based on the qualitative findings, this new model supported timely access to preventive health services and provided a culturally safe environment during a phase of rapid resettlement of new Syrian refugees.

**Describe how this research demonstrates innovation:** This new model, based on principles of emergency disaster management, accommodated surge capacity in access to preventive health services through interagency and multidisciplinary collaboration.

**Describe how this research informs change to future public health research, policy development and/or practice:** Key public health principles can be applied to respond to a rapid shift in new refugee arrivals to promote health equity and cultural safety.

## ORAL PRESENTATION 14

Wednesday 30 May

13:30-15:15

Van-Horne

**Infectious Questions – Lessons from a Canadian Public Health Podcast – Margaret Haworth-Brockman****Co-authors:** Shivoan Balakumar, Rick Harp

**Background:** Whether they face emerging issues or more persistent problems, public health professionals must often make timely decisions based on new information and the best available evidence. Yet many have no time to read long articles or attend seminars. That is why in 2016, the National Collaborating Centre for Infectious Diseases piloted its “Infectious Questions” podcast series, providing a new means of knowledge translation that could accommodate stakeholders’ constraints and conflicts.

**Program Purpose:** The project's primary objectives were: 1) connect public health stakeholders to timely and important knowledge on prominent infectious diseases topics and issues; 2) provide evidence-informed responses to key questions from those stakeholders; 3) transmit knowledge in a novel and engaging format that is easily accessible, digestible, and on demand; and 4) engage infectious diseases content experts in a way that was neither onerous nor time-consuming, while still allowing for thorough preparation and quality control.

**Target Groups:** Public Health Practitioners, Program Managers, Policy Makers, Researchers and Students.

**Activities:** Researching topics, soliciting stakeholder questions, engaging experts, recording and editing interviews, and marketing (including an eventual evaluation plan).

**Deliverables:** Thirteen short (< 10min) episodes have been produced to date, ranging from Zika virus to refugee health to tuberculosis; each showcase expert responses to one or more stakeholder-driven questions.

**Describe how this public health practice/program demonstrates innovation:** With but a handful of public health podcasts focused on infectious diseases in the Canadian context, NCCID’s piloted podcast explores alternate means of communicating infectious diseases evidence and engaging stakeholders.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** Preliminary feedback from listeners and interviewees has been promising, suggesting that podcasts can be used as an innovative, engaging and effective tool for communicating evidence to public health stakeholders (researchers, practitioners, policy makers) in a way that is flexible and responsive to their needs.

**Utilizing Multi-Media Tools in Indigenous Youth Health and Wellness Promotion - Gabriella Emery**

**Program Purpose:** To create spaces for Indigenous youth to strengthen their identity, empower their voices and build communication skills through utilization of multimedia tools and content development. The program is uniquely developed by and for Indigenous youth, which contributes to its culturally relevant and decolonizing nature.

**Target Groups:** Indigenous youth ages 10-25 in BC

**Activities:** Youth led development team including Elders and community partners; Skill building workshops to support youth in creating content that is self-reflexive; Community driven programming that is dynamic and adaptable to meet the diversity of needs in BC

**Deliverables:** Good Heart Good Mind Indigenous Youth Conference; Cuystwi and Ask Auntie Online Youth Wellness Programs; Indigenous Youth Wellness Community Grants; Mini Projects (i.e. Sexual Health Digital Speaker Series); and Filmmaking Workshops

**Describe how this public health practice/program demonstrates innovation:** For health promotion programming to be effective for Indigenous youth, it must be culturally relevant and holistic. This means adopting Indigenous-specific approaches such as bringing together Elders and youth, which creates a powerful and inspiring energy. Exposure to teachings from Elders and other Indigenous professionals can help youth build

leadership capacities and confidence. By empowering youth to define goals and objectives, they are able to locally tailor and take ownership of programming in order to enhance connection to land, community and self. Our program demonstrates that bringing together youth, elders, and professionals such as educators, facilitators, and filmmakers can promote nationhood and solidarity across age groups and territories. This innovative approach to health promotion aligns with the ways Indigenous peoples are reclaiming identity through resilience and resurgence of our cultures.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** Health promotion initiatives for Indigenous youth require youth leadership and meaningful participation to be effective; youth know what they need. Through colonization these distinct roles and responsibilities have diminished. Youth are largely absent from health agendas and from decision making processes. Our program considers this context and demonstrates how Indigenous youth could be supported to fully engage in the development of health promotion initiatives in their communities.

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**Impact evaluation: Reach and effectiveness of a mass media campaign promoting family meal planning to Canadian parents - Melissa Fernandez**

**Co-author:** Sophie Desroches, Marie Marquis, Alexandre Lebel, Mylène Turcotte, Véronique Provencher

**Background:** There is little data on the best communication strategies to deliver nutrition initiatives to Canadians or on the effectiveness of these interventions.

**Objectives:** The aim of this study was to evaluate the reach and effectiveness of the Eat Well Campaign: Food Skills among Canadian parents.

**Methods:** A cross-section of Canadian parents completed a web-based questionnaire on campaign reach and effectiveness. Analyses included descriptive statistics, chi-squared tests, multiple logistic regression models and multilevel models.

**Results:** Overall, 39 % of respondents (n = 964) were exposed to the campaign. TV vignettes were the most recognized strategy (51 %), followed by magazines (42 %) and spokespeople (34 %). Quebec City and rural Quebec had the highest rates of exposure, whereas Vancouver, Winnipeg and Toronto had the lowest. Reach was greater among parents with lower income, less education, Christians and French-speakers. The majority of exposed parents (> 58 %) reported more positive beliefs towards meal planning, because of the campaign. Each additional element of the campaign recognized was associated with greater odds of reporting positive attitudes, beliefs and behaviors ( $p < 0.05$ ). Exposed parents had greater odds of planning meals (OR = 1.66, CI 1.03-2.54) and believing that meal planning helps maintain a healthy diet (OR = 1.68, CI 1.03-2.74) than non-exposed parents, in fully adjusted models.

**Conclusions:** The campaign was successful in reaching a significant proportion of the target population and provided evidence of effectiveness, particularly on attitudes towards meal planning.

**Describe how this research demonstrates innovation:** To our knowledge, this is the first study to formally evaluate the impacts of a Federal healthy eating campaign targeting Canadians.

**Describe how this research informs change to future public health research, policy development and/or practice:** Results will inform public health agencies on the best media strategies to deliver nutrition messaging to Canadians. Investments can then be focused on the strategies that are likely to have the greatest reach and likelihood to change attitudes and behaviors towards healthy eating.

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## The Use of Digital Marketing to Increase Understanding and Uptake of the new Canadian 24-Hour Movement Guidelines - Rebecca Jones

**Co-authors:** Diana Dampier , Leigh M. Vanderloo, Tala Chulak-Bozzer

**Background:** A national non-profit, ParticipACTION aims to help Canadians sit less and move more. As such, it is crucial to serve up the latest and greatest physical activity information in relevant, interactive ways. The digital platform developed to support the new movement guidelines is an example of this.

**Purpose:** By developing an interactive experience and a digital toolkit with supportive content marketing assets, we engaged Canadian parents and children to teach them everything they need to know about the newly integrated movement guidelines.

**Target Groups:** Young children (0-4 years), school-aged children and youth (5-17 years), parents, and public health practitioners.

**Activities:** Based on systematic reviews and extensive expert feedback, the 24-Hour Movement Guidelines for the Early Years (0-4) and Children and Youth (5-17 year) were created. An extension of the Children and Youth edition (June 2016), *Build your Best Day* is a fun, interactive and educational tool to help children, their parents, educators and health professionals learn about the guidelines. With several tools and resources, the site helps children understand how much *Sweat, Step, Sleep* and *Sitting* they need each day to be healthy. The interactive experience was supported by a media and communications plan, the development of creative collateral, and tools such as fact sheets, activity posters, and games.

**Deliverables:** A multi-year national digital marketing plan was developed to promote the guidelines. This includes the development and dissemination of tools and resources to parents and educators, social media and email marketing, and a national digital media buy.

**Describe how this public health practice/program demonstrates innovation:** The creation of the digital experience and tools drew on the expertise of researchers, public health officials, as well as communication, marketing, and digital specialists. These projects represent key knowledge translation activities, whereby current evidence was synthesized and disseminated in a more public-facing and practical manner.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** The use of digital tools may prove useful and appropriate in the promotion of increased physical activity. Specific findings and metrics of these initiatives will be presented [*data collection is still ongoing*].

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## The Alcohol and Breast Cancer Connection: Exploring Messaging and Communication Channels that Resonate with Undergraduate Women - Jane McCarthy

**Co-authors:** Adam Cole, Kalpita Gaitonde, Carol Perkins, Sandra Gibson

**Background:** The strong causal relationship between alcohol consumption and female breast cancer (BRCA) risk is not widely known. Women at higher risk of heavier alcohol consumption, particularly undergraduate students, need to understand this risk to manage lifetime risk for BRCA.

**Objectives:** 1) To create a public education message appealing to undergraduate women; and  
2) To determine the best way to deliver the message to this audience.

**Methods:** Four focus groups with undergraduate women (n=31) from 3 post-secondary campuses were conducted. Three message concepts designed to increase awareness of the relationship between alcohol consumption and BRCA risk were presented to participants, followed by a series of closed and open-ended questions. Focus groups were recorded and transcribed verbatim. Thematic analyses identified common perceptions of the concepts.

**Results:** Following participation in the focus groups, participants reported increased awareness of the relationship between alcohol consumption and BRCA risk. Seven themes emerged from the open discussion:

design features of ads, credibility, relatability, clarity, emotional response, intention to act, and accessibility of information. Social media, specifically Instagram, was identified as the best way to deliver messages to this audience.

**Conclusions:** Knowledge of the relationship between alcohol consumption and BRCA risk was low among undergraduate women, highlighting the need to develop such a campaign. To be most effective, messages need to be relatable, clearly show the link between alcohol consumption and BRCA risk, and provide an actionable agenda.

**Describe how this research demonstrates innovation:** Participants confirmed social media as the best dissemination channel, highlighting the need to be current with technology and design format-suitable messages.

**Describe how this research informs change to future public health research, policy development and/or practice:** Knowledge of the relationship between alcohol consumption and breast cancer risk was relatively low, underscoring the need to continue to develop awareness campaigns and implement policies that ensure this risk is publicly known.

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### **Time to Get Checked! A publicly funded virtual clinic for sexually transmitted and blood-borne infections (STBBI) in British Columbia - Mark Gilbert**

**Co-authors:** Devon Haag, Silvina Mema, Lorena Hiscoe, Maja Karlsson, Dee Hoyano, Elizabeth Colangelo, Mel Krajden, Geoffrey Ford, Troy Grennan

**Background:** GetCheckedOnline.com (GCO) launched in 2014 and was developed by the BC Centre for Disease Control (BCCDC) to allow people to test for STBBI without visiting a clinic.

**Program Purpose:** GCO has three objectives: i) remove access barriers to STBBI testing among hard to reach populations ii) increase uptake and frequency of testing leading to earlier diagnosis; iii) increase the capacity of STBBI clinical services.

**Target Groups:** GCO was first implemented in Vancouver focusing on men who have sex with men and STI clinic clients. In 2016 GCO expanded in BC, targeting rural and other specific populations in each region. Future promotions targeting youth, Punjabi- and Chinese-speaking populations are planned.

**Activities:** After creating an account, clients complete a risk assessment, provide consent, print a lab requisition, submit specimens at a private laboratory, and get results online (negative) or over the phone (positive). HIV, hepatitis C, syphilis, Chlamydia and gonorrhea (urine +/- rectal or throat swabs) testing is offered. GCO is a virtual extension of the provincial STI clinic at BCCDC, which oversees management of results, ensuring appropriate treatment and follow-up.

**Deliverables:** Over 4,000 clients tested through GCO in its first 3 years and over 33% have tested more than once; 1 in 20 clients receive an STBBI diagnosis. GCO has increased the tests per month managed by the provincial STI clinic by 36%. GCO is highly acceptable and reaches individuals facing testing barriers.

**Describe how this public health practice/program demonstrates innovation:** GCO is the first online testing service in Canada to provide comprehensive STBBI testing on a provincial scale. By allowing people to test without the need to see a physician or nurse. GCO manages to overcome testing barriers (e.g., stigma, lack of testing services).

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** GCO demonstrates a potential solution for increasing public health STBBI screening capacity and reach, and evidence to inform other digital public health services in Canada.

## ORAL PRESENTATION 15

Wednesday 30 May

13:30-15:15

Mansfield/Sherbrooke

**First Nation parents' perceptions of a school nutrition policy - Christina Davey****Co-authors:** Alexander Research Committee, Noreen Willows, Anna Farmer, Katerina Maximova**Background:** A school nutrition policy (SNP) is one strategy to improve the food environment of First Nations children.**Objectives:** To explore parents' perceptions of barriers to and facilitators of SNP implementation in a First Nations school in Alberta.**Methods:** A community-based participatory research approach was used to engage community members as collaborative partners with university researchers. A survey was administered to all parents of students (n=83, 66.4% response) to understand their perceptions of the SNP and factors influencing implementation. Survey results informed semi-structured interviews with parents (n=10). Interview transcripts were analyzed using content analysis**Results:** Perceived facilitators of SNP implementation included parent support for the policy and the school's role in providing healthy foods to children. Almost all parents (95%) supported healthy foods being served and sold to children, and parents perceived the SNP as helping to address obesity and chronic disease. Perceived barriers to SNP implementation included parents' lack of support for policy guidelines concerning food served at special events (e.g., celebrations and fundraisers), lack of knowledge about the SNP, and socioeconomic barriers. While most parents (60%) believed that the school was successfully communicating with them about the SNP, most could not demonstrate an understanding of the guidelines. Parents also faced barriers related to the cost and accessibility of healthy foods.**Conclusions:** Although parents overwhelmingly support healthy foods being served at school, SNP implementation may be undermined by parents' perceptions of appropriate foods to be served at special events and parental knowledge of SNP guidelines. To ensure successful SNP implementation, policymakers need to consider and address parent barriers.**Describe how this research demonstrates innovation:** This research involves First Nations parents – an important yet often overlooked stakeholder group – in understanding SNP implementation.**Describe how this research informs change to future public health research, policy development and/or practice:** There is a paucity of research concerning SNP implementation in First Nations communities. Findings suggest that successful SNP implementation requires an inclusive policy development and implementation process that involves parents as important stakeholders along with other members of the school community.**Disparities in the availability of school-based health-promoting interventions in public schools in Québec: a preliminary analysis - Hartley Dutczak****Co-authors:** Nancy Hanusaik, Marie-Pierre Sylvestre, Geetanjali Datta, Annie Montreuil, Liane Comeau, Jennifer O'Loughlin**Background:** Schools influence health behaviors in all youth regardless of individual socioeconomic status (SES). However, SES disparities in availability of school-based health promoting interventions or extra-curricular activities could contribute to differences in health behaviors across SES.**Objectives:** To determine whether there are disparities in the availability of health promoting interventions and extra-curricular activities offered in Québec schools.**Methods:** In the on-going *Project PromeSS*, we interviewed (to date) school principals in 55 elementary and high schools in Québec. Principals completed telephone interviews on the availability of health promoting interventions (separate from the Ministry-mandated curriculum, but with compulsory participation) and extra-



curricular activities (defined as contributing to student well-being, but participation is voluntary) in their schools. Data were also collected on the process of adopting, implementing and sustaining health promoting interventions. Schools were classified into high or low SES according to Ministry of Education deprivation indicators.

**Results:** The mean number of health promoting interventions and extra-curricular activities was generally higher in higher SES schools across most domains. Greater number of higher SES schools offered mental health promotion programs (51% vs. 29% of low SES schools). Among the different categories of extra-curricular activities, 54-83% of higher SES schools offered these opportunities compared to 14-79% of low SES schools. Interestingly, more low SES schools reported tobacco programming (36% vs 15% of higher SES schools).

**Conclusions:** This first analysis of the data suggests that students in higher SES schools are exposed to more health promoting interventions and extra-curricular activities than students in low SES schools. The lack of tobacco control programming in Quebec schools may need reflection given the availability of new tobacco products and upcoming marijuana legalization. The lower availability of mental health programs in low SES schools warrants further investigation.

**Describe how this research demonstrates innovation:** *Project PromeSS* questionnaires were designed to quantitatively measure complex processes usually assessed qualitatively.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research provides data critical to informing strategies for better access to health promoting interventions, especially in disadvantaged neighborhoods, which may improve health and academic outcomes in all Québec students.

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### **A Tailored Physical Education Program Enhances Elementary Students' Attitudes, Self-Efficacy, and Motivation to Engage in Physical Activity - Shannah Dutrisac**

**Co-authors:** Anomi Bearden, Scott Oddie

**Objectives:** The Physical Activity Leadership (PAL) Program was designed to provide individually tailored supports to promote improvements in attitudes, self-efficacy, and motivation to engage in physical activity in Red Deer, Alberta.

**Methods:** Students completed pre- and post-intervention surveys, and 117 students were subsequently matched for a paired repeated measures sample. Surveys included scales measuring positive and negative attitudes toward exercise, motivation to exercise measures, and perceptions of physical ability.

**Results:** Paired sample *t*-tests revealed that negative attitudes toward exercise significantly decreased from pre-test ( $M = 16.58, SD = 5.06$ ) to post-test ( $M = 15.20, SD = 5.14$ ),  $t(116) = 2.82, p = .006$ . A statistically significant increase in perceptions of physical ability were witnessed from pre- ( $M = 38.12, SD = 6.00$ ) to post-test ( $M = 40.21, SD = 5.04$ ),  $t(116) = 3.69, p < .001$ . Statistically significant changes on number of motivational subscales were also observed, and overall motivation to exercise increased from baseline ( $M = 7.22, SD = 5.65$ ) to post-test ( $M = 9.34, SD = 5.12$ ),  $t(116) = 4.11, p < .001$ .

**Conclusions:** The PAL Program supports a health promotion approach that addresses the specific physical activity needs of different schools within a community.

**Describe how this research demonstrates innovation:** The PAL Program used a tailored approach, rather than a one-size-fits-all intervention, to yield enhanced attitudinal and motivational outcomes in elementary school students. This was achieved through conducting needs-based assessments of each school and supporting classroom teachers in delivering new and exciting ways to engage in exercise.

**Describe how this research informs change to future public health research, policy development and/or practice:** The PAL Program is an example of how varied physical activity needs can be addressed across a community through personalized health promotion activities at the level of individual schools. Through diverse

and engaging instructional methods, activities, and providing equipment where needed, communities can foster positive health benefits for a wide range of schools and their unique physical activity needs.

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### **Applying a complex systems lens to school food environments in Nova Scotia - Jessie-Lee McIsaac**

**Co-authors:** Becky Spencer, Melissa Stewart, Bridget Irwin, Sara Kirk

**Background:** Supporting implementation of policy strategies that encourage healthier eating is a national priority to address the poor diet quality among children and youth. School Food and Nutrition Policies (SFNPs) are important in the creation of healthy school food environments as they can improve equitable access, resources, and supports for healthy eating. However, despite the potential impact of SFNPs, implementation barriers are often reported.

**Objectives:** In 2006, Nova Scotia became one of the first provinces in Canada to launch a SFNP. This research used a complex systems lens to describe the interaction between system levels and stakeholder roles within the NS school food environment 10 years following SFNP implementation.

**Methods:** Interviews and consultations were conducted with various stakeholders in the school food system to understand roles and experiences with the SFNP and the creation of healthy school food environments.

**Results:** Consultations (n=13) and interviews (n=34) took place with teachers, parents, cafeteria workers, food providers, public health staff and non-profit organizations from across the province. Preliminary themes influencing implementation of the SFNP and school food environment relate to access, procurement, culture and funding.

**Conclusions:** SFNP implementation can be challenging and understanding the interactions between system levels and stakeholder roles will help to inform the development of relevant policy strategies that will support healthier school food environments.

**Describe how this research demonstrates innovation:** As schools are part of our communities, system interactions need to be considered, which include the interactions between various stakeholders, institutions, organizations, and infrastructure that influences our food-related social norms and the types of foods that are available for children and youth in environments where they live, learn and play.

**Describe how this research informs change to future public health research, policy development and/or practice:** Applying a complex systems lens provides an opportunity to consider interactions and roles and identify potential intervention targets to support SFNP implementation. Furthermore, a complex systems lens can illuminate the capacity of the Nova Scotia school system to support positive changes.

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### **Evaluating the Implementation of the Ontario School Food and Beverage Policy (P/PM 150) in Peel Region Schools using the Consolidated Framework for Implementation Research (CFIR): Qualitative Results - Renata Valaitis**

**Background:** The School Food and Beverage Policy (P/PM 150) defines nutrition standards for foods sold in Ontario schools. A large evaluation was conducted on the implementation of the policy in Peel Region. This presentation will focus on the qualitative results of the evaluation.

**Objectives:** To explore key stakeholders' perspectives of student food behaviours and P/PM 150 implementation.

**Methods:** Qualitative data (focus groups, interviews) was collected from key stakeholders including students, parents, school stakeholders, and food service providers and analyzed using NVivo qualitative software. Findings were then analyzed deductively using Damschroder's Consolidated Framework for Implementation Research (CFIR).

**Results:** The policy was generally viewed positively, however, participants felt that the policy sends mixed messages and interpretation is sometimes inconsistent. Successes of policy implementation include stakeholders being creative with cafeteria promotion and testing new recipes. Challenges include fundraising, food taste/cost and students' rights. While some schools and food providers have shown implementation success, others still struggle. Participants have identified the need for better support as well as increased monitoring of compliance and follow up from the Ministry. Perceived factors influencing P/PM 150 policy implementation within Peel Region closely align with the constructs identified in the CFIR.

**Conclusions:** While some successes with P/PM 150 implementation were highlighted, many barriers to implementation exist. The CFIR is a useful framework to identify potential factors for consideration for future policy development, support and evaluation.

**Describe how this research demonstrates innovation:** The analysis of this qualitative data is unique in that it was analyzed under the lens of an implementation framework to ensure a comprehensive look at implementation within a specific setting and context.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research provides valuable insight to various stakeholders' experiences of implementing an Ontario-wide nutrition policy at the local level. The use of CFIR provides a theoretical understanding of the various factors that are important for future implementation of school nutrition policy.

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### **The Ontario school nutrition policy: Using concept mapping to guide co-creation of an evaluation agenda - Michelle M Vine**

**Co-authors:** Scott Leatherdale, Rhona Hanning, Kelly Skinner, Susan Elliott, Rebecca Gunter, Rachel Laxer, Kristin Brown, Alexandra Butler, Katelyn Godin, Renata Valaitis, Karen Patte

**Background:** Research from across Canada provides evidence of positive behavioural and health outcomes associated with provincial school nutrition policies; however, evidence from Ontario highlights barriers to implementation across regions. In 2011, the Ontario Ministry of Education implemented the Ontario School Food and Beverage Policy (P/PM 150) in all schools. Six years later, an evaluation of P/PM 150 is urgently needed.

**Objectives:** To present results from a Canadian Institutes of Health Research (CIHR)-funded planning meeting, where health researchers and knowledge users came together to present research, engage in discussion, brainstorm and prioritize research gaps and emerging opportunities for evaluating implementation of P/PM 150.

**Methods:** Concept mapping – a collaborative, participatory approach for planning and evaluation – was utilized in order to systematically integrate input from meeting attendees (N=31) into statements that describe perceived issues or needs related to school nutrition policy implementation within and outside of Ontario. Brainstorming (1), sorting of concepts (2), and rating (3) were undertaken to produce a quantitative set of results-based concepts of importance to inform the development of a research agenda.

**Results:** Concept mapping results identified that there is a need to explore student and teacher experiences within schools, the food environment and food consumption in schools, student-led initiatives, and parent and stakeholder engagement in implementation. A case study approach was recommended as an appropriate way forward.

**Conclusions:** An informed evaluation agenda will include an analysis of policy objectives and compliance, identification of measures and outcomes, profit and revenue, and promising practices, and will be provided to the Ontario Ministry of Education to inform their update of P/PM 150 in the Spring of 2018.

**Describe how this research demonstrates innovation:** Concept mapping is a structured mixed method participatory approach, integrating input from multiple sources. In this context, it helped to elicit perspectives of experts working in the field of school nutrition across Canada.

**Describe how this research informs change to future public health research, policy development and/or practice:** The inclusion of a range of stakeholders invested in school nutrition research and policy, including a close partnership with the policy-maker (Ministry of Education), will lead to a co-created research and evaluation agenda.

## ORAL PRESENTATION 16

Wednesday 30 May

13:30-15:15

Crescent

### **The Wequedong Lodge Cancer Screening Program (WLCSP): An Opportunistic Cancer Screening Pilot Program in Northwestern Ontario (NWO) - Kelly-Jo Gillis**

**Co-authors:** Susan Bale, Cathy Paroschy-Harris, Sara Chow, Tarja Heiskanen, Lauren Beach

**Background:** First Nation (FN) people experience greater health disparities than other Canadians. In Ontario, cancer incidence rates are increasing among FN populations, including breast, cervical, and colorectal cancers, all of which have organized province-wide screening programs. Disparities also exist in cancer survival, with FN people having poorer survival rates than non-FN people. In NWO, the same patterns are occurring, but there are also unique challenges.

Research suggests that education and access to screening programs that deliver culturally-appropriate services could help to detect cancers early. Opportunistic screening has the potential to ease barriers that lead to health disparities by utilizing opportunities to educate and screen people.

**Program Purpose:** The goals of the WLCSP were to increase education about cancer and cancer screening participation rates among FN people.

**Target Groups:** FN populations from rural and remote communities in NWO.

**Activities:** An opportunistic screening program was established at Wequedong Lodge in Thunder Bay, Ontario. The program offered culturally appropriate education, breast, cervical and colorectal cancer screening appointments, and follow-up pathways.

**Deliverables:** 843 adults attended appointments between 2013 and 2016. Participants were provided with education using a Cancer Screening Toolkit, which was developed as part of the program. Of these eligible participants, 21.8% of women were screened for breast cancer, 31.8% of adults were provided FOBT kits, and 8.1% of women were screened for cervical cancer.

**Describe how this public health practice/program demonstrates innovation:** Opportunistic screening utilizes an opportune location to provide education and cancer screening opportunities to FN people from rural and remote communities. The WLCSP resulted in the development of a culturally appropriate education toolkit, which was positively evaluated by clients, and also improved access to and participation in cancer screening.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** The WLCSP informs organizations, who are working to improve FN health, that opportunistic screening is an option to be considered. We present key success factors and lessons learned from implementing this pilot project in practice.

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### **Bridging the Gap – Mobile Cancer Screening in Indigenous Communities - Lauren Beach**

**Co-authors:** Cathy Paroschy-Harris, Tarja Heiskanen

**Background:** Indigenous populations are more likely to experience health inequities compared with non-Indigenous populations. The Screen for Life (SFL) Mobile Coach addresses access barriers by providing culturally sensitive screening services for breast, cervical and colorectal cancers in communities across Northwestern Ontario (NWO).

The coach is a 45ft bus that has been retrofitted into a state-of-the-art healthcare office, equipped with a digital mammography unit and nurse exam room. The Coach travels to over 75 different Indigenous and non-Indigenous communities.

**Program Purpose:** Prevention and Screening Services has been working with Indigenous communities since the inception of the program in 1990. Through this experience a number of challenges with regards to screening uptake have been observed. For example, high no-shows rates, perceived lack of interest in screening, lack of education regarding cancer screening, and fear of screening interventions. As of 2014, the program has utilized lessons learned to inform a renewed approach that addresses these concerns while building lasting relationships. The approach focuses on meaningful engagement, capacity building and partnership sustainability with the intent of empowering communities and improving rates of cancer screening among Indigenous people.

**Target Groups:** FN populations from rural and remote communities in NWO.

**Activities:** The Coach brings culturally appropriate organized cancer screening services to communities.

**Deliverables:** Annually, a two person team provides 6000 mammograms, perform over 600 Pap tests and distribute over 800 FOBT kits. Additionally, the re-envisioned approach has recruited 29 new Indigenous communities to screen with the coach and is working towards strengthening existing relationships with numerous others.

**Describe how this public health practice/program demonstrates innovation:** Bringing organized screening to communities in a geographically vast region increases participation where individuals would otherwise have to travel in upwards of 6+ hours to partake in preventative health. The community development approach in Indigenous Communities is unique in the current Canadian Health Care environment.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** The SFL Coach has demonstrated success in engaging with Indigenous communities and providing culturally appropriate services in a community driven approach.

### Prevention System Quality Index: Health Equity - Maria Chu

**Co-author:** Caroline Silverman

**Background:** Cancer Care Ontario's Prevention System Quality Index monitors system-level policies and programs that can reduce cancer risk factors and exposures in the Ontario population.

**Objectives:** The *Prevention System Quality Index: Health Equity* report, which will be published in April 2018, reports on opportunities to reduce cancer risk factors in populations facing health inequities. A major focus of the report is First Nations, Inuit and Métis peoples in Ontario.

**Methods:** The report describes the distribution of cancer risk factors in the population, and how system-level policies and programs with the potential to reduce cancer risk factors can affect groups facing health inequities. Univariate analyses were conducted to examine indicators according to a wide range of socio-demographic factors.

**Results:** Populations facing health inequities have a higher prevalence of certain cancer risk factors and fare worse on several indicators intended to monitor the effects of policies and programs. For example, Ontarians with lower income and less education have higher smoking rates, second-hand smoke exposure and lower rates of quitting smoking, and binge drinkers with lower income or less education have more frequent binge drinking episodes. First Nations, Inuit and Métis populations have a higher prevalence of several behavioural risk factors than non-Aboriginal Ontarians.

**Conclusions:** To reduce the prevalence of cancer risk factors in the population and reduce health inequities, universal and targeted policies and programs must be implemented as part of multi-level, cross-sectoral, comprehensive strategies. Culturally relevant policies and programs that are developed together with First Nations, Inuit and Métis communities are required to reduce cancer risk factors and health inequities.

**Describe how this research demonstrates innovation:** This report takes a “health in all policies” approach to cancer prevention, which takes into account the health of the population in the development of policies in all sectors.

**Describe how this research informs change to future public health research, policy development and/or practice:** The research conducted for this report brings together indicator data, evidence and recommendations to help stakeholders make the case for developing system-level policies and programs that can reduce cancer risk factors in populations facing health inequities.

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### **Decision-makers perspective on how to optimize the eventual implementation of a genetic risk stratification approach for breast cancer detection and prevention in Quebec - Julie Hagan**

**Co-authors:** Emmanuelle Levesque, Bartha Maria Knoppers

**Background:** Genetic stratification approaches in personalized medicine may considerably improve our ability to identify women at higher risk of developing breast cancer. Such women at higher risk could then benefit from risk-adapted mammography screening. To deliver on these promises, such approaches need to be implemented in practice.

**Objectives:** With the objective to implement a programmatic genetic-based risk stratification approach for breast cancer in the province of Quebec, we explored possible application scenarios with decision-makers.

**Methods:** We conducted 20 semi-structured interviews with decision-makers and representatives from professional organizations (nurses, pharmacists, and doctors). We presented them with a variety of options for implementing a risk stratification approach addressing issues such as informed consent, sample collection methods, risk communication, inclusion of minorities, etc.

**Results:** Our results show consensus regarding the important role that clinical nurses could play in such an approach (e.g. pre-test counseling, sample collection, and post-test communication for lower risk categories). However, interviewees agreed that women at higher risk should be referred to a doctor reasoning that this level of risk is akin to a diagnosis. Interviewees were adamant that well-defined procedures should be put in place to ensure quality and validity of procedures. While some were enthusiastic about the possibilities of telemedicine and telegenetics (e.g. the possibility of accessing genetic counseling remotely), others pointed out that this might not be helpful for remote areas that do not have access to high-speed Internet.

**Conclusions:** In a context of ongoing organizational changes, such as in Quebec’s health system, pre-feasibility studies must anticipate how changing contexts could affect future implementation.

**Describe how this research demonstrates innovation:** Feasibility studies are essential to make sure health innovations do not stay in the genetics labs and benefit the population

**Describe how this research informs change to future public health research, policy development and/or practice:** Our conclusions will inform decision-makers of the organizational and medico-legal barriers and facilitators to effectively deploying a genetic risk stratification approach for the early detection and prevention of breast cancer.

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### **Increasing Cancer Screening Uptake in the Métis Nation of Ontario (MNO) - Laura Senese**

**Co-authors:** Storm Russell, Alisha Kaba, Jennifer Kong, Jill Timmouth, Alethea Kewayosh, Cody Carmody

**Background:** The MNO is leading a program of targeted, participatory research to better understand the burden of cancer and cancer risk factors among the Métis people in Ontario. Prior work suggests that cancer risk factors are more prevalent and that the incidence of some cancers are higher among the Métis than non-Indigenous people in Ontario. Building on this work, the MNO, Cancer Care Ontario and Sunnybrook Research Institute partnered on a community-based study that aimed to examine factors that impact cancer screening among Métis in Ontario.

**Objectives:** Identify barriers and facilitators to cancer screening uptake and improve access to culturally relevant cancer screening services for Métis in Ontario.

**Methods:** The study combined focus group and survey methods to capture the perspectives of Métis throughout Ontario. Participants included 66 Métis community members and MNO frontline staff.

**Results:** Key factors that impede participation in cancer screening among Métis included: limited Métis-specific resources and supports; widespread lack of cultural competency among healthcare providers; limited access to screening services; and challenges with long-distance travel to access services. Among the key supports identified were: culturally specific information and programming; assistance with transportation; local screening services; Métis cultural training for providers; and integrated screening services.

**Conclusions:** This research identified key service gaps and culture-based strategies for improving cancer screening services among Métis in Ontario.

**How this research demonstrates innovation:** To date, approaches to understanding cancer screening behaviours in Indigenous populations have mostly been pan-Indigenous in nature, or predominantly First Nations-focused. Such approaches mask Métis-specific geographic, demographic, and sociopolitical factors that impact Métis screening rates. This project engaged community and policy partners in a collaborative, culture-based study of cancer screening among Métis people of Ontario. Results provided insights into factors impacting Métis community screening rates specifically, not available from pan-Indigenous approaches.

**How this research informs change to future public health research, policy development and/or practice:** Results from this study provide clear direction to policy makers and will help target resources to where they are more likely to be effective in increasing screening among the Métis people of Ontario.

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### **The built environment and cancer prevention: A scoping review - Alexander Wray**

**Co-author:** Leia Minaker

**Background:** Cancer is the leading cause of death in Canada, and about half of all cancers are preventable. Healthy built environments can support cancer prevention by reducing cancer risks. Comprehensively describing pathways between built environment features and cancer development is a foundational step in creating evidence-based municipal policies to prevent cancer.

**Objectives:** This session will provide an overview of our systematic scoping review, which examined associations between built environment features and cancer prevention. We will focus on the practical application of our findings to municipal and regional decision makers in Canada.

**Methods:** The review was organized using the Prospero Protocol, following Cochrane evidence guidelines. Eleven electronic databases were searched for relevant articles. Quantitative and qualitative articles examining built environment features and cancer-related outcomes (e.g., prevalence, incidence, mortality, screening) were included. Relevant data were extracted from studies by two independent investigators using a piloted data extraction form.

**Results:** The scoping review captured 308 relevant peer-reviewed journal articles from an original results pool of 9958 potential articles.

**Conclusions:** There is a well-documented relationship of the built environment with physical activity and dietary risk factors. There is emerging evidence for risk factors associated with screening, air quality, and ultraviolet radiation exposure. There is also an opportunity for further research of alcohol and tobacco use risk factors.

**Describe how this research demonstrates innovation:** This is the first cross-disciplinary examination of the state of the evidence for cancer prevention and the built environment. Previous reviews have only focused on medical and public health literature sources, while our review broadly scanned all potential sources of evidence, with a particular focus on urban planning, municipal governance, and architecture.

**Describe how this research informs change to future public health research, policy development and/or practice:** Be informed of the evidence for the built environment's role in cancer prevention; and Recommendations for potential local policy changes and future research areas

## ORAL PRESENTATION 17

Wednesday 30 May

13:30-15:15

Notre-Dame/Saint-Denis

**Educating a Workforce: "Building on Best Practice: Working Through the Overdose Emergency" - Kate Fish,**

**Co-authors:** Jessica Bridgeman, Jacqueline MacKinnon, Gillian Frosst

**Background:** Between January 2016 and September 2017 the public health overdose emergency (PHE) has taken the lives of 2084 people in BC.

**Program Purpose:** The emergency has escalated the need for embracing evidence-based programs and services to meet the needs of people who use drugs (PWUD) and those at risk of opioid overdose. This led to a number of rapid changes in program delivery and involvement of inter-disciplinary staff, many of whom have not worked with PWUD. A high demand for accurate, evidence-based information was acknowledged in order to improve and sustain the delivery of high quality care for PWUD. Interior Health (IH) identified four main streams of knowledge where existing training was not meeting the need: Harm Reduction Philosophy & Practice, Understanding the Overdose Crisis, Opioid Agonist Treatment (OAT) and Staff Resiliency. Key objectives included facilitating a deeper understanding of stigma and discrimination towards people who use drugs and building resiliency amongst people doing the frontline work in the PHE.

**Target Groups:** Educators and Frontline Staff

**Activities:** Development and accessibility of practice related resources and 2-day workshops for staff. Workshops included lecture, interactive activities, discussion, and reflection. Current focus is on sustainability amongst staff to continue working through the PHE.

**Deliverables:** This oral presentation will cover a summary of the process involved in this large scale education project. Including a review of related resources and the two-day, in-person education sessions hosted in both rural and urban communities.

**Describe how this public health practice/program demonstrates innovation:** It was responsive to the immediate needs of frontline staff working through a PHE and embodied a strong focus on understanding stigma and system challenges to battling the opioid crisis. It required cross-portfolio collaboration between and ensured representation of participants was inter-disciplinary, with IH staff, community agency staff and First Nation communities present.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** The success of this education package provides a useful resource to strengthen public health practice and its role in the PHE.

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## Rapid Implementation of Enhanced Opioid Overdose Surveillance in Emergency Departments in British Columbia - Gillian Frosst

**Co-authors:** Kari Harder, Melanie Rusch, Anthony Leamon, Brent Harris

**Background:** In April 2016, a public health emergency was declared in BC in response to a significant increasing trend of illicit fentanyl-related drug overdose deaths. Emergency powers invoked under the *Public Health Act* allowed for improved access to near real-time data to guide the emergency response.

**Program Purpose:** The purpose of enhanced surveillance was to better understand the incidence, distribution, demographic characteristics, and circumstances surrounding opioid overdose events as presented to EDs.



**Target Groups:** Public health practitioners and decision-makers working in geographic areas with an increased incidence of illicit drug overdose deaths.

**Activities:** Enhanced surveillance was rapidly implemented in selected EDs across three of five health authorities in BC. A paper-based case reporting system captured demographic information as well as self-reported contextual information such as history of substance use, overdose location, whether the person was alone at time of overdose, and substance(s) used. Core data elements were standardized across health authorities. Data were routinely analyzed and collated into surveillance reports for distribution to regional and provincial stakeholders.

**Deliverables:** Outputs included detection of opioid overdose trends and clusters, regular regional surveillance reports, and contribution to a provincial cohort of overdose events. The information collected through enhanced surveillance was critical to advance the understanding of populations affected by the overdose crisis, to guide regional emergency response and communications plans, and to educate stakeholders and the general public about populations most at-risk of overdose.

**Describe how this public health practice/program demonstrates innovation:** The public health emergency allowed for mandatory reporting of a non-communicable syndromic event and the collection of contextual overdose information in EDs. In some regions, case reporting was leveraged to increase patient referrals to mental health and substance use services at time of discharge.

**Describe how this practice/program informs change to future public health practice, research and/or policy development:** Enhanced surveillance of opioid overdoses was most valuable in describing the circumstances and generating hypotheses related to overdose events. Additionally, the findings informed expansion of harm reduction programs and policies including supervised consumption services.

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### **Opioids, Benzodiazepines (BZD) and Z-Drugs, Oh My! Alberta Physicians' Attitudes and Opinions upon Receipt of their MD Snapshot Personalized Prescribing Profile (Snapshot) - Nicole Kain**

**Co-authors:** Nigel Ashworth, Delaney Wiebe

**Background:** The Medical Regulatory Authority (MRA) in the province of Alberta, Canada is the College of Physicians & Surgeons of Alberta (CPSA). Opioid prescriptions have been monitored by the CPSA since 1986, and BZD prescriptions have been monitored since 2015. Recently, the CPSA conceptualized a prescribing profile for physicians, using data on opioid and BZD prescriptions. In 2016, the CPSA developed the Snapshot: a personalized prescribing report for physicians to see how many opioids and/or BZD they have prescribed to their patients. In December 2016, the first iteration of the Snapshot was sent to all Alberta physicians (n=8,213) who had prescribed either an opioid and/or a BZD (including "Z-drugs") in Q32016.

**Objectives:** To determine the attitudes and opinions of Alberta physicians who received their Snapshot in December 2016.

**Methods:** Following mail-out of the Snapshot, a survey was emailed to Snapshot recipients. The survey asked 5 closed-ended questions, and an open-ended question asking for "comments." Results from the closed-ended questions were compiled via Survey Monkey; and responses to the open-ended question were analyzed using a qualitative content analysis method. Analysis was completed May 2017.

**Results:** Total survey response rate was 27% (n=2,148). Greater than 50% of respondents indicated they plan to make changes as a result of the Snapshot, and 2/3 of respondents found the information in the Snapshot useful. Responses to the open-ended question were mixed.

**Conclusions:** Physicians' attitudes and opinions regarding the receipt of their Snapshot are diverse. Most recipients found benefit in their Snapshot, and plan to use forthcoming versions as a useful instrument in their practices.

**Describe how this research demonstrates innovation:** The Snapshot is an innovative tool developed by the CPSA to facilitate physician self-reflection on their prescribing practice.

**Describe how this research informs change to future public health research, policy development and/or practice:** Given the high rates of opioid/BZD prescriptions and related opioid epidemic, the Snapshot can be an important tool that can assist in improving physician prescribing practices.

### **Patient Centered Care for Injectable Opioid Assisted Treatment - Kirsten Marchand**

**Background:** Patient centered care (PCC) responds to patients' individual needs, values and preferences. Among people with chronic conditions, it has been associated with retention, satisfaction, and improved health outcomes. This approach could offer similar benefits to people with substance dependence, but has received less attention. The supervised injectable opioid treatment (iOAT) model offers a unique opportunity to explore PCC for people with substance dependence, since clients have daily interactions with health care staff.

**Objectives:** The aim of this study was to explore the concept of PCC and its perceived relationship with patient-defined outcomes from the perspective of patients receiving iOAT.

**Methods:** Qualitative methods, informed by grounded theory, were used for sampling, data collection and analysis. A total of 30 interviews were conducted with long-term opioid dependent patients receiving iOAT in Canada's first clinic. Audio-recordings for each semi-structured interview were transcribed, read repeatedly, and coded. Substantive codes were created during the open coding process; axial codes established the interconnection between substantive codes and informed theoretical codes for the core higher-order concepts.

**Results:** Patients identified recovery goals beyond the medication itself. For example, regaining an improved quality of life was prominent, and included rebuilding family relationships and gaining vocational skills. As the daily need for street heroin was controlled, patients expressed that their recovery goals evolved. For these emerging treatment needs, patients emphasized the importance of on-site diversified services (e.g., nutritional care, vocational counseling), mutually respectful patient-provider relationships and opportunities to actively participate in treatment decisions.

**Conclusions:** In reflecting on PCC, participants emphasized health care provider relationships and the benefits of tailored and comprehensive services. These findings suggest that increased alignment between patient's recovery goals and the delivery of clinical care can lead to improved addiction, health and psychosocial outcomes.

**Describe how this research demonstrates innovation:** To our knowledge, this is the first study to examine PCC in iOAT and its role in meeting patient-defined recovery goals.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research is beneficial as the field of addictions moves towards more person-centered and evidence-based clinical practices and policies.

### **Investigation of sociodemographic and event factors preceding severe residential overdose events among males in Fraser Health, British Columbia, Canada, 2015-2017 - Michelle Murti**

**Co-authors:** Salman Klar, Alison Orth, Victoria Lee

**Background:** Since the Public Health Emergency was declared in April 2016 in British Columbia (BC), men in private residence locations are the leading demographic for overdose deaths in Fraser Health (FH), BC. Interventions require understanding sociodemographics, mental health and substance use history and event-based circumstances to find novel ways to reach this population.

**Objectives:** The purpose of this analysis was to identify life and event circumstances and healthcare utilization related factors for men with serious overdose events in private residence locations that could be used to target public health interventions.

**Methods:** A retrospective chart review was conducted on men admitted to a FH hospital for an illicit drug overdose event from a private residence location between June 14, 2015 and March 31, 2017.

**Results:** 90 charts met inclusion criteria; median age was 34 years old (range 13-80 years). The majority had chronic (60.0%) or frequent (25.6%) substance use. Only 33.8% were currently working; Trades (52.5%) was the most common employment history. Although men used alone (79.2%), the majority lived with someone else (87.4%), were found by a household member (57.0%) and had good social supports (63.2%). 51.1% had a previous or current opioid prescription, 13.3% were on opioid substitution therapy at the time of the event. Recent physical pain (48.9%) and mental health diagnoses (88.9%) were common. Four (4.5%) died and 35.6% had a subsequent overdose emergency room visit in the follow-up period.

**Conclusions:** Healthcare providers should utilize interactions and social supports to engage on overdose prevention. Public health should adapt prevention messaging and consider outreach to the Trades industry.

**Describe how this research demonstrates innovation:** The innovation of using hospital charts to capture sociodemographic and social support information from a hard-to-reach population provided valuable timely, efficient and non-stigmatizing insights.

**Describe how this research informs change to future public health research, policy development and/or practice:** Fraser Health and other Canadian jurisdictions can use these findings to engage Trades and target overdose prevention interventions.

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### **Gender Informed and Gender Transformative Approaches to the Opioid Crisis: Implications for messages, practice and policy - Rose Schmidt**

**Co-authors:** Nancy Poole, Lorraine Greaves, Natalie Hemsing, Andreea Catalina Brabete, Tasnim Nathoo

**Background:** There is inadequate consideration of gender influences and factors, such as higher overdose rates among men, in media or public health messages, harm reduction and treatment services and policy specific to opioid use in Canada.

**Objectives:** To introduce knowledge translation materials designed to support gender-informed and gender transformative approaches to opioid misuse and overdose.

**Methods:** Through a series of meetings with British Columbia based researchers, service providers and policy makers, findings from a systematic review on sex, gender and opioids were translated into two discussion guides.

**Results:** Evidence from the systematic review and from consultations was utilized to prepare discussion guides for 1) the media, including suggested practice for reporting on the opioid crisis and 2) service providers with implications for public health messaging, practice and policy.

**Conclusions:** Sex- and gender- related factors impact opioid use and misuse including: the influence of sex hormones on pain processing, opioid metabolism, dependence and withdrawal; how people of all genders interface with the health care system; gendered prescribing practices, modes of ingestion and patterns of use, and experiences of trauma and violence underlying use.

**Describe how this research demonstrates innovation:** This project expands the lens on public health initiatives designed to address the opioid crisis, beyond harm reduction, to also address media discourse, prevention and treatment. It does this in a way that not only describes gender differences, but includes how gender equity can be promoted in opioid and other substance use interventions.

**Describe how this research informs change to future public health research, policy development and/or practice:** The guides are intended to improve capacity to work in gender informed and gender transformative ways by increasing understanding of the impact of sex, gender and trauma on opioid use/ misuse and providing ideas for improving reporting, messaging, and providing brief support, harm reduction and treatment interventions while promoting gender equity.

## ORAL PRESENTATION 18

Wednesday 30 May

13:30-15:15

Sainte-Catherine

**Defining public health systems - Elizabeth Alvarez****Co-author:** Tamika Jarvis

**Objectives:** With recent emphasis on creating stronger, more patient-centred health systems, there remains no clear definition of a “public health” system hindering the ability to integrate preventive public health and health care practices. This study investigates how public health systems have been defined and classified.

**Methods:** A critical interpretive synthesis of the literature was conducted using six electronic databases, with data extraction, coding and analysis following a best-fit framework analysis method. Initial codes were based on a current leading health systems and policy classification scheme: health systems arrangements (based on governance, financial and delivery arrangements). New codes were developed as guided by the data using a constant comparative method.

**Results:** 5,933 unique documents were identified. 338 documents met inclusion criteria. 81 documents were purposively sampled for full-text review and 58 were included in this study. Nine documents were found to help fill conceptual gaps. Generally, public health systems can be defined using traditional healthcare systems and policy frameworks. There is a strong emphasis on identifying and standardizing the roles and functions of public health. Partnerships (community and multi-sectoral) are common features within and between components of public health systems. A public health system framework and model of a population health system were conceptualized.

**Conclusions:** The collective interest in strengthening national and local health systems requires acknowledging the respective contributions of each system. A research agenda is proposed to move this field forward.

**Describe how this research demonstrates innovation:** This study is a first attempt at addressing an important gap in understanding how public health systems have been conceptualized. The proposed framework can be tested in various contexts and is a starting point to identify areas of compatibility for system integration. Our study design provides a new methodology to bring data together faster using reliable and well-known frameworks.

**Describe how this research informs change to future public health research, policy development and/or practice:** Questions are raised about how the public health sector is understood, its functions, system components, and capacity. It reinforces the importance and benefits of partnerships, particularly in systems where resources are strained.

**High Performing Public Health Teams in a Complex Health System - Malcolm Steinberg****Co-authors:** Shannon Sibbald, Mrs Beverley Bryant, Anita Kothari

**Background:** Tackling today’s complex population and public health challenges, within a context of finite resources, requires inter-professional teams to have specific competencies (CEPH, 2016). These collaborations must negotiate common goals and find a basis for problem solving, sometimes made more complicated by power differentials and dissimilar cultures.

**Issue and policy research:** Which characteristics of teams facilitate collaborative work across the broad range of content areas common to public health such as health promotion, health protection, surveillance and population health assessment?

Strong shared team leadership and ability to facilitate team dynamics are essential to mitigating ‘hidden conflicts’ and are critical for high-performing teams. Any strategy to achieve high impact teams should include awareness of these tensions and, accordingly, the need for conflict resolution approaches.

**Analysis:** Common challenges encountered when working in teams include: Team Functioning vs. Project Outcome Priorities; Team dynamics; and External factors.

**Describe the current status of the policy:** Fostering supportive and well-functioning teams protects against staff exhaustion, mitigates tensions, and manages conflicts. Cohesive and integrated teams maximize their collective impact. As public health and LHINs work together in Ontario to plan health services with a population health lens, understanding the principles of achieving high performing teams is vital.

**Future implications:** Teams have a mandate to achieve a common outcome. In the context of public health, teams are becoming increasingly complex: multiple professions, skills, various service organizations, and diverse cultures and management structures. Team building skills are an essential part of the future public health workforce.

**Describe how this policy alternative demonstrates innovation:** The current environment in Ontario with Patients First context requires teams to work in the areas of health promotion, health protection, population health assessment and surveillance for optimal health services planning. Applying principles of high-performing teams will facilitate the effectiveness of these collaborations.

**Describe how this policy alternative informs change to future public health policy development, practice and/or research:** Collaborative public health practice happens when multiple practitioners from different professional backgrounds work together as high-performing teams to deliver effective policies, programs and services.

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### **Supervisors: Facilitators of public health practice transformation - Beverley Bryant**

**Background:** In 2009, Public Health at the Region of Peel began to transform its work from the delivery of programs to the analysis of health status and the design and implementation of programming to achieve health outcomes. This transformation started with the use of research evidence and now extends to the full scope of public health practice. As a result, the work is changing. Supervisors are the connection between the team and the strategy. In 2017, a supervisor needs assessment was completed.

**Objectives:** This presentation describes the needs of supervisors as they work in an organization where public health practice is under transformation. How do supervisors direct and enable this changing work? An overview of the workforce plan and interventions is described.

**Methods:** Individual interviews were conducted with supervisors. Results were themed to understand how supervisors create work assignments that facilitate professional development and achieve team goals. The survey assessed supervisor's knowledge and skill, their grasp of roles and competencies of team members and their ability to assign work and mentor their team members through to success.

**Results:** Barriers and facilitators were identified at the level of the supervisor, the manager and the organization.

**Conclusions:** Interventions to build capacity in teams exist at all levels. This survey uses appreciative inquiry and we are building interventions based on what is enabling success.

**Describe how this research demonstrates innovation:** This practice-based research is happening in real time in an organization under transformation. We describe methods to build front line and supervisory skill in effective public health practice.

**Describe how this research informs change to future public health research, policy development and/or practice:** The new Ontario Public Health Standards mandate that organizations use methods of effective public health practice to assess, plan, intervene and evaluate. This mandate requires teams to function in new ways. This practice-based research builds organizational capacity to handle these changes.

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## Supporting Organizational Change in Public Health - Olivia Marquez

**Co-authors:** Emily Clark, Donna Ciliska, Maureen Dobbins

**Background:** While individual knowledge and skills for evidence-informed decision making (EIDM) are crucial to successfully implement EIDM at a public health organization, it is also critical to develop an organizational infrastructure and culture that supports the use of evidence in practice.

**Objectives:** To better support public health organizations achieve EIDM in practice, the National Collaborating Centre for Methods and Tools (NCCMT) has developed an online learning module to provide those in public health management positions with an overview of areas to consider when planning organizational change.

**Methods:** The NCCMT developed an online learning module for organizational change to complement the NCCMT's existing learning modules that build individual capacity for EIDM. Module content was developed based on a review of existing literature as well as the NCCMT's extensive experience in supporting organizational change in public health across Canada.

**Results:** The completed module covers topics that will support organizational change and uses a common public health scenario for practice activities throughout. The module outlines a popular framework for managing organizational change. To support application of this framework, the module then outlines several tools that can be used to conduct an organizational assessment as well as plan organizational change. Strategies that can be implemented for organizational change are also outlined and applied to the practice scenario. Finally, the module covers success indicators for change and their measurement.

**Conclusions:** In addition to individual knowledge and skills, organizational implementation of EIDM requires the support of organizational infrastructure and culture. A new online learning module from the NCCMT supports public health managers plan, implement and assess organizational change initiatives.

**Describe how this research demonstrates innovation:** This module provides an overview of managing organizational change specific to the public health context, in an interactive format that supports adult learning.

**Describe how this research informs change to future public health research, policy development and/or practice:** Empowering public health organizations to effectively implement changes to support the implementation of EIDM can improve evidence use in practice and program.

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## Organizational change readiness and resistance: Models, frameworks, and theories - Kristin Read

**Co-authors:** Danielle Kasperavicius, Maureen Dobbins

**Objectives:** To identify major models, frameworks, and theories (M/F/T) on organizational change readiness and resistance that may be relevant to public health practice.

**Methods:** A systematic search of five public health, business and social science databases was conducted to identify review-level articles on organizational change. Two independent reviewers screened a sub-set of the results using predefined inclusion criteria to identify M/F/T on organizational readiness and resistance. The original search strategy was supplemented by a review of included article reference lists, a targeted search of the larger results set, a google Scholar search, and outreach to key informants. Data extraction was performed on each identified M/F/T and organized along dimensions of potential importance to the public health context including nature of change, level of change, change perspective, organizational structure, change agent, level of knowledge needed to use the M/F/T, and whether it was classified as a model, framework, or theory.

**Results:** Approximately 50 M/F/T were identified; 15 specific to organizational readiness and 35 specific to organizational resistance. The majority of included M/F/T look at planned change, focus on preparing for change, and emphasize the individual level of change. Many look at hierarchical organizational structures, focus on top-down approaches to change, and are more conceptual than concrete. The majority of M/F/T were classified as frameworks or theories; 11 were labelled as models.

**Conclusions:** These results can be used to inform the development of a larger project focusing on tools and resources to support the implementation of organizational change initiatives.

**Describe how this research demonstrates innovation:** In a perpetually changing public health landscape, there is a need to better understand organizational change processes. This preliminary research explores the concept of organizational readiness and resistance in the context of change and helps set the stage for future work in this area.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research provides a collection of informative and potentially useful M/F/T that can be used by public health practitioners to identify strengths and gaps in the published literature on the influence of organizational readiness for change.

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### **Organizational Stewardship and Well-being: Implications for Health Promotion - Leah Simpkins**

**Co-authors:** Louise Lemyre

**Background:** Understanding how contextual factors influence employee well-being is crucial for the development and success of health promotion initiatives in the workplace. Stewardship is an organizational approach that emphasizes a sense of purpose towards the common good through the sharing of power and information across networks to work through complex issues.

**Objectives:** This research tests a conceptual model of stewardship within the framework of stress and well-being to verify if a context of stewardship within public service organizations predicts indicators of mental health among executives.

**Methods:** This research used data from the 2012 APEX Work and Health survey, consisting of a nationally representative sample of public service executives (N=2314). Also, in-depth interviews were conducted with executives of various ranks (N=15). Hierarchical regression analyses investigated whether stewardship, measured with a five-item scale, played a role in the relationship between stress and mental health. Qualitative data was analyzed using grounded theory to develop a more comprehensive understanding of stewardship within the public service.

**Results:** Working in a context of higher stewardship was significantly associated with less perceived stress and distress ( $R^2 = .57, p < .001$ ) and was positively associated with work engagement ( $R^2 = .22, p < .001$ ). Moreover, executives valued the practice of stewardship in their work environment and described the need to strengthen this approach for the well-being of future generations.

**Conclusions:** Overall, results supported the value of stewardship, described as a shared responsibility for the public good, in organizational health research. Findings have important implications for both researchers and practitioners interested in the well-being of executives.

**Describe how this research demonstrates innovation:** Stewardship research can provide new knowledge on the processes that influence trust, a sense of purpose, and ultimately, well-being in the public service context.

**Describe how this research informs change to future public health research, policy development and/or practice:** This research fosters discussion among employees, government leaders and policy-makers concerning best practices and the evolving capacity of public organizations. Moreover, it advances knowledge on how organizational-level interventions may be best designed to address executive well-being and mental health.

## PRÉSENTATIONS ORAUX 19

Mercredi 30 mai

13 h 30 à 15 h 15

Saint-Paul

**L'itinérance au féminin : portrait de la complexité des trajectoires et des facteurs favorisant la transition vers la stabilité résidentielle - Katherine Maurer****Co-auteurs:** Mireille Guerrier, Marie-Christine Boulianne**Contexte :** L'itinérance est l'un des grands enjeux de santé publique contemporaine.**Objectifs :** Nous examinons les parcours des femmes en transition vers une stabilité résidentielle d'un grand refuge montréalais et dégageons les facteurs favorisant l'équilibre psychosocial et communautaire soutenant la santé et le bien-être.**Méthode :** Nous avons analysé 105 questionnaires mesurant le bien-être, l'historique d'itinérance et l'utilisation des services de santé de femmes inscrites dans des services transitionnels du refuge, ainsi que 33 entretiens semi-dirigés d'un sous-groupe de participantes. Leur âge médian est de 43 ans; 30% sont nées à l'extérieur du pays; 55% parlent français; 8% s'identifient comme autochtones; et 32% ont vécu l'itinérance durant plus d'un an.**Résultats :** Parmi les femmes inscrites à un programme de transition résidentielle, 86% sont parvenues à intégrer un logement stable. Nous remarquons qu'un soutien adéquat en santé mentale, une intégration sociale et communautaire, une bonne relation avec les intervenants et une aide dans la recherche d'un logement sont des facteurs favorisant la réussite vers une stabilité résidentielle.**Conclusions :** L'utilisation des services sociaux et des relations avec la communauté contribuent à la réussite d'une sortie de l'itinérance vers une stabilité résidentielle.**Décrire comment cette recherche innove :** Bien qu'elle augmente, se complexifie et se diversifie, les études sur l'itinérance féminine demeurent peu nombreuses, et les réflexions et les actions sont les mêmes que celles pour l'itinérance en général (Bellot, 2016). Notre étude innove en s'intéressant aux besoins et enjeux des femmes en situation d'itinérance et plus particulièrement sur les processus menant à une stabilité résidentielle.**Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs :** Les résultats permettront de développer, améliorer, et partager nos connaissances sur l'efficacité des programmes de transition résidentielle offerts par les refuges. Ils contribueront également à la mise en place de politiques et de programmes locaux, régionaux et nationaux mieux adaptés aux multiples réalités de l'itinérance au féminin.**Événements météorologiques extrêmes associés aux changements climatiques : impacts psychosociaux négatifs sur les travailleurs du Québec - Leylà Deger****Co-auteurs :** Maxime Boivin, France Tissot, Magalie Canuel, Marie-Pascale Sassine, Ariane Adam-Poupart**Contexte :** Les changements climatiques pourraient accentuer la fréquence et l'intensité d'événements météorologiques extrêmes (EME) au Québec. Peu d'écrits scientifiques ont examiné les impacts psychosociaux chez les travailleurs exposés à de tels événements.**Objectifs :** Le projet visait à synthétiser les connaissances scientifiques disponibles sur les impacts psychosociaux négatifs des vagues de chaleur, inondations, tempêtes et feux de forêt chez les travailleurs et de déterminer les lacunes dans les connaissances ainsi que des pistes de recherche ou d'intervention répondant aux besoins des milieux de travail québécois.**Méthode :** Une synthèse des connaissances a d'abord été réalisée au moyen d'une recension documentaire ciblée (2007-2017; pays à climat tempéré avec un contexte socio-économique similaire à celui du Québec). Un laboratoire d'idées a ensuite été organisé, regroupant des experts de santé publique et des représentants de



milieux de travail québécois, pour compléter ou enrichir la synthèse produite ainsi que pour cibler leurs préoccupations, leurs besoins et des pistes de recherche ou d'intervention en lien avec la thématique visée.

**Résultats :** Les écrits consultés et les échanges du laboratoire d'idées suggèrent divers impacts psychosociaux négatifs chez les travailleurs exposés aux EME, entre autres des troubles psychologiques, émotionnels, comportementaux et sociaux. Des secteurs d'activité économiques et des professions où les travailleurs pourraient être plus à risque ont été répertoriés. Des connaissances à acquérir et des pistes de recherche et d'intervention ont été proposées.

**Conclusions :** Ce projet a permis de dresser un portrait des impacts psychosociaux négatifs que peuvent entraîner les EME chez les travailleurs exposés. Des travaux futurs seront réalisés pour élaborer des scénarios de recherche et des pistes d'intervention.

**Décrire comment cette recherche innove :** Elle est l'une des premières à porter sur cette thématique et elle repose sur une approche qui mobilise des expertises variées.

**Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs :** Ce projet permettra le développement de projets qui répondent aux besoins des milieux de travail québécois et favorisera la mise en place de mesures pour protéger les travailleurs et minimiser les impacts psychosociaux négatifs que peuvent entraîner les EME.

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**L'angle citoyen de la lutte à la facturation en santé : agir politiquement sur un enjeu d'accès et d'équité en santé - Geneviève McCreedy**

**Co-auteurs:** Stéphane Defoy, Josée Ann Maurais, Laurent Chicoine, Lorraine Rochon, Élise Mercier Gouin

**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 revenus.

**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 règlementation 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.

## L'évaluation de l'impact de la démarche ÉIS sur les processus décisionnels municipaux - Kareen Nour

**Co-auteurs:** Astrid Brousselle, Jean-Louis Denis, Julie Loslier, Pernelle Smits

**Objectifs :** Explorer les impacts du modèle collaboratif de l'évaluation d'impact sur la santé (ÉIS), tel que déployé en Montérégie, sur la formulation, l'adoption et l'implantation de projets municipaux favorables à la santé.

**Méthode :** Neuf démarches d'ÉIS ont été étudiées dans 9 territoires et 36 personnes ont été rencontrées. La collecte de données s'est inspirée des six étapes de l'analyse de contribution et inclut une analyse documentaire, des entrevues semi-dirigées et des observations *in situ*.

**Résultats :** L'ÉIS a eu un faible impact direct au niveau de la sensibilisation des acteurs municipaux, les aidant plutôt à acquérir un argumentaire pour à leur tour sensibiliser et convaincre leur conseil municipal du bien-fondé de certaines actions et leur impact favorable sur la santé des citoyens; L'ÉIS était généralement entrepris par des acteurs municipaux déjà convaincus de l'importance de favoriser la santé des citoyens. Dans une minorité des cas, certaines recommandations énoncées suite à l'ÉIS ont été intégrées aux documents de planification; Dans une majorité de cas, le rapport d'ÉIS constitue un document de planification additionnel, sans être fusionné avec les documents de planification originaux; Suite à la démarche d'ÉIS, une majorité des acteurs municipaux ont continué à intégrer les aspects de la santé dans la planification subséquente de politiques publiques. Parmi les facteurs de succès d'une démarche d'ÉIS, notons, la présence d'acteurs municipaux conscients de l'importance de leur rôle sur la santé de leur population. Parmi les obstacles (qui sont nombreux), les coupures budgétaires, la réalisation d'une ÉIS alors que le projet municipal est trop avancé et l'absence d'un décideur municipal dans la démarche EIS.

**Conclusions :** L'étude met en lumière la complexité du monde municipal, la spécificité de chaque démarche ÉIS et les facteurs incontournables pour l'obtention d'impact sur les projets municipaux.

**Décrire comment cette recherche innove :** La présente étude est la première à explorer les impacts des ÉIS réalisées en collaboration avec les villes.

**Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs :** L'étude permettra aux acteurs régionaux et locaux de santé publique de percevoir la plus-value et des limites de l'ÉIS pour l'amélioration de la santé de la population.

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## Évaluation des coûts de suivis de grossesse chez les femmes enceintes sans assurance médicale à Médecins du monde - Mike Okenge Shonda

**Co-auteur:** Valéry Ridde, Éric Tchouaket

**Contexte :** Plusieurs femmes résidant au Canada avec un statut d'immigration précaire n'ont pas d'assurance médicale. Les coûts de leurs soins médicaux extrêmement élevés représentent un obstacle direct à l'accès aux soins. La clinique Médecins du Monde Canada (MdM) a offert à cette clientèle un suivi de grossesse gratuit.

**Objectifs :** Cette recherche vise à dresser un portrait général de cette clientèle et à évaluer les coûts réels de suivi des grossesses des femmes consultant à MdM.

**Méthode :** L'étude s'appuie sur une approche transversale descriptive d'analyse de coûts de la trajectoire des femmes suivies à MdM d'avril 2016 à mars 2017. Les données collectées via les fiches des patientes ont permis de dresser leur portrait général puis estimer le coût d'une trajectoire par intervention.

**Résultats :** Sur 54 femmes suivies, 70% arrivaient avec une grossesse très avancée et 72% avaient une grossesse à risque. 866 interventions ont été réalisées, dont 423 par les infirmières (INF), 200 par les intervenants sociaux (TS) et 243 par les médecins (MD). La durée d'intervention moyenne était de 30 min pour les INF et les TS et de 25,3 min pour les MD. En moyenne, le coût d'un suivi de grossesse annuel par femme à MdM varie de 109\$ à 147\$.

**Conclusions :** Ce travail démontre la nécessité d'investir dans la prévention primaire des femmes enceintes à statut précaire en améliorant l'accès aux soins, car la prise en charge urgente des grossesses à risque coûte très cher au système public. L'idéal serait d'intégrer cette catégorie de la population dans le système public, mais à défaut trouver une solution palliative avec les organismes communautaires comme MdM.

**Décrire comment cette recherche innove :** produire des connaissances sur l'état de santé, l'accès aux soins et les conditions de vie des migrants sans assurance médicale à Montréal, en vue de les améliorer.

**Décrire comment cette recherche guide les changements dans la recherche, l'élaboration de politiques et/ou les programmes de santé publique futurs :** Ce travail montre l'intérêt de les intégrer dans le système de santé de Québec, car au final les coûts reviennent plus élevés pour le système, en urgence.

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### **L'évaluation d'impact sur la santé en Montérégie : un processus appuyé sur le courtage de connaissances - Émile Tremblay**

**Co-auteurs :** Louise St-Pierre, Christian Viens

**Contexte:** Depuis la Charte d'Ottawa, les environnements sont reconnus pour leurs influences sur la santé et ses déterminants. Ces environnements étant reconnus pour être influencés eux-mêmes par les décisions politiques, les Municipalités sont donc des acteurs clés pour créer des milieux de vie favorables à la santé.

**But du programme:** L'EIS est une démarche d'aide à la prise de décision visant à informer les décideurs des impacts potentiels, positifs ou négatifs, d'un projet sur la santé. La prise en compte des impacts anticipés permet de formuler des recommandations appuyées sur les données probantes. Ces recommandations visent à améliorer les retombées du projet sur la santé et à réduire les inégalités sociales de santé. Les projets soumis à une EIS prennent plusieurs formes, tels que des plans d'aménagement ou des politiques sociales.

**Groupes cibles:** Les décideurs municipaux (élus ou fonctionnaires) responsables de l'élaboration ou de l'implantation de projets structurants pour leur communauté.

**Activités:** La démarche EIS effectuée dans un mode de courtage de connaissances permet d'établir une collaboration formelle entre scientifiques et décideurs municipaux. Cette collaboration permet d'identifier autant les enjeux de santé publique d'un projet que son contexte d'implantation et les préoccupations de ces décideurs.

**Produits livrables:** Au terme d'une EIS, un rapport contenant l'analyse des impacts potentiels du projet ainsi que des recommandations est remis aux décideurs municipaux.

**Décrire comment cette pratique de santé publique innove:** L'EIS appliquée en Montérégie permet de franchir les barrières qui restreignent la prise de décision fondée sur les données probantes (notamment: faible accessibilité aux connaissances, variabilités des contextes d'implantations, manque de temps).

**Décrire comment cette pratique guide les changements dans la pratique, la recherche ou l'élaboration de politiques de santé publique futures:** La démarche montérégienne permet l'adoption de projets municipaux fondés sur des données probantes et de créer des environnements plus favorables à la santé. Depuis 2010, 18 EIS ont été réalisées en collaboration avec des partenaires municipaux. Une évaluation des retombées des EIS, financée par les IRSC, a été réalisée entre 2013 et 2017.