

Research and Practice Virtual Showcase 2020

Thursday, October 29 2020

Occupational Health, Ethics, Knowledge Translation, Injury, and LGBTQ+

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Name: Caroline D'souza

Program: MPH Social and Behavioural Health Science (Health Promotion)

Project Title: Developing, Selecting, and Validating Quality Indicators: A Literature Review

Research or Practice: Practice

Key Words: Knowledge Translation, Data Quality

Abstract: The purpose of the practicum position at the Registered Nurses' Association of Ontario (RNAO) was to refine the current guiding criteria and validation process for developing quality indicators. Quality indicators are used to collect data for quality improvement purposes help to validate the implementation of evidence-based recommendations developed by RNAO. These recommendations are updated every five years and help to enhance effective nursing care and patient safety in various health settings. The objectives of this practicum were to conduct an environmental scan of guiding criteria used by 16 leading health and research organizations to develop quality indicators; to conduct a literature review of published articles on guiding criteria for indicator development and validation; present the results to the evaluation team; and complete a write up of the methodology, results, and recommendations of the project. The findings collected from this practicum is of great significance as it will considerably enhance the efficacy and consistency of developing quality indicators that meet a high-quality requirement which will ultimately be reflected in the value of quality indicators. Having a systematic and evidence-based methodology for developing and validating quality indicators is the foundation of collecting robust data which will then result in meaningful change through data analysis. RNAO is an established professional organization and consistently advocates for robust public policy, promotes excellence in nursing practice, encourages nurses to help shape the health-care system, and influence decisions that impact nurses and the general population they serve. Therefore, the Best Practice Guidelines (BPG), which are evidence informed guidelines and recommendations that address a specific pertinent issue within the health care system, are often guided by up-to-date data collected by the institutions affiliated with RNAO. The data collected illuminates whether recommendations are feasible in current practice and if it leads to meaningful change within the health care system.

Name: Jen Goldberg

Program: PhD Social and Behavioural Health Sciences

Project Title: Ontario Midwives' Attitudes Towards Sexual and Gender Minority People: A Cross-Sectional Survey

Research or Practice: Research

Key Words: Gender identity/sexual orientations (LGBTQ), Maternal and Child Health

Abstract: This study aims to explore Ontario midwives' attitudes towards sexual and gender minority people (SGM). The need for this research is demonstrated by: (1) published literature showing midwives' attitudes do shape the care experiences of lesbian women; (2) the lack of literature on midwives' attitudes towards all SGM, more broadly. Understanding what shapes attitudes might help ensure midwives are able to provide quality, inclusive care to all SGM, which could play an important role in reducing health disparities of SGM and improve their health outcomes. As primary care providers, midwives are well positioned to be effective partners public health initiatives to reduce the disparities in health of SGM.

The primary hypothesis is Ontario midwives demonstrate positive attitudes towards SGM. A secondary hypothesis is no significant difference exists between the attitudes of rural and urban midwives. This study will be a mixed mode, cross-sectional survey of midwives in Ontario, developed within the framework of community-based participatory research in partnership with SGM and midwives. The population is approximately 808 registered midwives who are Association of Ontario Midwives members. To achieve a 98% confidence interval with a 1% margin of error, the sample size would need to be N=471, estimating the prevalence of positive attitudes to be 70% (N=330). A response rate of 60% would result in 484 surveys. Participants will be recruited through midwifery practices. Data collection will utilize Dillman's approach of multiple contacts. Data analysis will include: measurement of the attitudes of Ontario midwives towards SGM; assessment of differences in midwives' care of SGM; and assessment of differences in attitudes toward SGM based on demographic data. Results will be stratified by demographic and self-identity variables.

Name: Peiqi Meng

Program: MPH Occupational and Environmental Health

Project Title: Workplaces and COVID-19: Occupational health and safety considerations for reopening and operating during the pandemic

Research or Practice: Research

Key Words: Occupational Health, Prevention

Abstract:

Introduction: In response to the COVID-19 pandemic many non-essential Canadian workplaces ceased normal operations in March 2020. As more workers return to work, workplaces may be important sites of transmission within communities. The goal of this project was to summarize preventive measures that can support safer reopening and operation of workplaces during the COVID-19 pandemic.

Methods: In collaboration with the Canadian Standards Association (CSA) Group, a scoping review of existing guidelines, standards, and literature relating to COVID-19 and work was conducted. The resulting report and guidance document underwent three rounds of rapid review by subject area experts and senior leaders across Canada. In total 132 individuals were invited to provide feedback, 62 (47%) participated.

Results: Three domains of preventive measures were identified: (1) building systems, (2) workplace design and (3) supporting workers. Following a building shutdown, HVAC and plumbing systems can harbour chemical and microbiological hazards (other than COVID-19) that need to be managed. Upon re-opening, workplace design can be altered to reduce COVID-19 transmission by supporting physical distancing and sanitization measures can be increased. Personal protective equipment (PPE) and hand hygiene should be implemented within a multifaceted strategy. Employers can also act to protect the physical and psychological health of workers, to support compliance with local public health guidelines, and to ensure accommodations where needed.

Recommendations: COVID-19 is both an occupational and public health hazard. Though occupational health and safety and public health are often regulated by separate bodies, it is important that work together to protect Canadians. Employers have a responsibility to ensure workers' health and safety with respect to COVID-19, as well as other workplace hazards. A guidance document is available from the CSA Group to support workplaces during the COVID-19 pandemic.

Name: Maham Qureshi

Program: MPH Nutrition and Dietetics

Project Title: The Power of Communication: Exploring Various Approaches Before & During COVID-19

Research or Practice: Practice

Key Words: Knowledge Translation, Food and Nutrition, COVID-19

Abstract: Earlier this year, I was placed at The Princess Margaret Hospital in inpatient oncology (cancer) focused on malignant hematology. In this rotation, I gained knowledge of cancer-related side effects and their relation to nutrition. At ELLICSR Kitchen, I utilized this information to develop scripts and shotlists outlining various nutrition tips to manage cancer-related side effects. The written pieces will be transformed into introductory videos available online. The ultimate goal is to increase online availability to cancer-related nutrition content for patients living with cancer and their caregivers.

Following the lockdown, I began a virtual placement at Regent Park Community Health Centre (RPCHC). I spoke with clients over the telephone, met with my preceptor via Zoom and managed projects online. I was involved in the PhotoVoice project, which asked the community "How has COVID-19 impacted your life?" Submissions were received over email, and shared with the general public through social media to offer insight on community assets and barriers.

The power of both projects originated from visual communication in the form of videos and photographs, and the ability to share findings and information online, where it would be accessible to a wide audience - anywhere at any time.

Prior to COVID-19, communication was integral to providing healthcare. However, this remains the case and the ability to adapt to the changing needs of the population, and reach them where they are is vital. This mission to provide the most accessible and effective healthcare during this time is supported by various communication tools and opportunities to connect virtually. This year I experienced providing nutrition care at a distance, to both individual clients and larger populations, and understood the true power of communication.

Name: Sarah Richter

Program: MPH Epidemiology

Project Title: Prevalence of Childhood Adversities in Ontario and their Indication of Prolonged Post-Concussion Symptoms

Research or Practice: Practice

Key Words: Chronic Disease, Injury, Maternal and Child Health

Abstract: Concussions are a growing public health concern, which manifest as cognitive, somatic and psychological symptoms. There is currently no consensus on who is most likely to have persistent symptoms. However, risk of chronic disease has previously been linked to childhood adversities. Assessing childhood adversities has potential to inform post-concussion prognosis. Our goals were to describe Ontario's childhood adversity prevalence and determine its association with post-concussion symptoms. Ontario's prevalence was determined by comparing our cohort's prevalence to a demographically similar American state. Patient intake data from a tertiary care clinic was used, which included the Rivermead Post-Concussion Questionnaire (RPQ), the Adverse Childhood Experiences (ACE) survey and other neurotrauma assessments. Patients' inclusion was based on symptoms at clinic presentation, compared to a standard definition of concussion. Data was entered in REDCap and exported to SPSS for analysis; we performed the chi-square test for independence. Among the 581 eligible patients, 52.0% were female with a median age of 40 (IQR, 25). Their median months since injury upon clinic presentation was 4 (IQR, 10). ACE and RPQ median scores were 1 (IQR, 2) ranging from (0,10) and 20 (IQR, 19) ranging from (0, 48), respectively. RPQ symptom subdomains had scores of 4, 7 and 4, for cognitive, somatic & psychological symptoms, respectively. Pennsylvania was the most similar to Ontario and had similar ACE prevalence to our cohort. The statistical analysis displayed sufficient evidence for association between each of the symptom subdomains and childhood adversities; the strongest associations were for somatic and psychological symptoms. Our findings display a need for preventive measures in the first 18 years of life or improved care targeting somatic and psychological outcomes among high ACE patients. Therefore, other clinics should use the ACE questionnaire at intake. These findings are also supported by research on biomarkers & limbic system dysregulation.

Name: Kristie Serota

Program: PhD, Social and Behavioural Health Science

Project Title: Improving end-of-life conversations in the post-MAiD era

Research or Practice: Research

Key Words: Ethics, Occupational Health, Policy

Abstract:

Legalizing medical assistance in dying (MAiD) has transformed how palliative and hospice care providers (PHCPs) engage in end of life conversations with patients and their loved ones. We do not currently know how PHCPs in the Toronto area have experienced this tremendous shift, and what challenges they have faced in transforming their practice to accommodate MAiD conversations. We must understand the unique challenges faced by PHCPs so that we can improve the education, resources, and supports available to these essential healthcare providers. We also must ensure that Canadians receive the highest quality care at the end of life, whether or not they choose to pursue a medically assisted death. To examine these unique challenges, I interviewed 22 PHCPs to document their experiences of engaging in end-of-life conversations in the post-MAiD era. Participants included physicians, nurses, social workers, and other allied health professionals employed in faith-based and secular institutions. Their personal beliefs about MAiD varied widely; some identified as conscientious objectors, while others actively engaged in MAiD assessment and provision. Initial thematic analysis revealed that challenges include translating the federal legislation into medical practice; navigating inefficient institutional policies and role ambiguity; developing conversation techniques to share MAiD information with patients and families in a balanced way that is informative yet uncoercive; and, navigating the ethical and organizational issues that arise when patients with declining capacity pursue MAiD. Finally, PHCPs shared personal experiences of burnout, emotional weight, and stigma. Understanding how these factors impact the work and lives of PHCPs allows us to develop targeted strategies to improve the institutional policies surrounding MAiD conversations, referrals, and procedures, as well as decrease the negative personal and emotional consequences of engaging in end-of-life conversations in the post-MAiD era.

Name: Stephanie Ziembicki

Program: PhD Occupational Health and Environment

Project Title: Current diesel engine exhaust exposure in the Ontario construction industry

Research or Practice: Research

Key Words: Occupational Health, Prevention

Abstract:

Background. Diesel engine exhaust (DEE) is a known carcinogen and a common occupational exposure in Canada, particularly within construction. The use of diesel-powered equipment in the construction industry is widespread, but little is known about DEE exposures and occupational disease in this work setting. The objective of this study was to characterize and identify key determinants of DEE exposure at construction sites in Ontario.

Methods. Diesel particulate matter (DPM) measurements were taken from workers employed on seven infrastructure construction worksites in Ontario. Full-shift personal air samples were collected from workers using a constant-flow pump and SKC aluminum cyclone with 37-mm quartz fiber filters in an open-faced cassette. Samples were analyzed for elemental carbon (EC), a surrogate of DEE exposure, following NIOSH method 5040. Exposures were compared to recommended health-based limits, including the Dutch Expert Committee on Occupational Safety (DECOS) limit ($1.03\mu\text{g}/\text{m}^3$ respirable EC) and the Finnish Institute of Occupational Health (FIOH) recommendation ($5\mu\text{g}/\text{m}^3$ respirable EC). A determinants of exposure model was constructed.

Results. In total, 126 DPM samples were collected, ranging from <0.47 - $52.58\mu\text{g}/\text{m}^3$ with a geometric mean (GM) of $4.23\mu\text{g}/\text{m}^3$ (geometric standard deviation (GSD)=3.05). Overall, 44.8% of samples exceeded the FIOH limit, mostly within underground worksites (93.5%), and 88.8% exceeded the DECOS limit. Underground workers (GM= $13.20\mu\text{g}/\text{m}^3$, GSD=1.83) had exposures approximately 4-times higher than below grade workers (GM= $3.56\mu\text{g}/\text{m}^3$, GSD=1.94) and 9-times higher than aboveground workers (GM= $1.49\mu\text{g}/\text{m}^3$, GSD=1.75). Work grade, enclosed cabs, and seasonality were identified as the major determinants of exposure.

Implications. This study provides a better understanding of current DPM exposure in Canadian construction. Most exposures were above recommended health-based limits, signifying a need to further reduce DPM levels in construction. These results can inform a hazard reduction strategy including a new occupational exposure limit and targeted intervention/control measures to reduce DPM exposure and the burden of occupational cancer.