School of Pharmacy

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ABSTRACTS

MEMORIAL UNIVERSITY
School of Pharmacy

Undergraduate Abstracts

Adapting the Parent Café Model to Support Youth Substance Use Prevention

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Introduction:
We aim to expand the DECYDE (Drug Education Centred on Youth Decision Empowerment) strategy to support primary substance use prevention. One mechanism would be through supporting parents and caregivers. We seek to adapt the established Parent Café model to one that addresses youth substance prevention. These peer-led sessions would educate caregivers about substance-related topics and create community connections. This project sought to hear from caregivers about their desires for a Parent Café initiative in Newfoundland and Labrador (referred to as Caregiver Cafés hereafter).

Methods:
A needs assessment was conducted, which included semi-structured interviews with ten caregivers (with youth ages 11-21). Caregivers were mostly women aged between 35 and 53 and had diverse caregiving roles (e.g., fostering, adoption). Caregivers were asked about topics for the education component, the ideal frequency and length of Caregiver Cafés, and suggestions for recruitment of facilitators and participants.

Results and Discussion:
Generally, caregivers want to learn more about substances themselves, ways to address difficult topics with their youth better and understand how substance use is related to other factors like mental health. Caregivers prefer a 90-minute session held biweekly or monthly during the evenings. Nine out of ten caregivers reported they would attend a Caregiver Café in the future and believe other caregivers in their communities would be interested in attending Caregiver Cafés.

Conclusion:
Overall, participants thought that Caregiver Cafés would address their growing concerns about youth substance use. The adapted Parent Café model shows promise for educating caregivers about substance-related topics and providing a safe and welcoming environment for peer support.

Public Perspectives on the Role of Community Pharmacists in Screening for Social Determinants of Health:

The SPARK RPh Public Engagement Project

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Introduction: The role of the pharmacist in screening for social determinants of health (SDoH) has not been clearly defined in the Canadian context. The aim of this public engagement (PE) project is to explore public perspectives on the pharmacist's role—to inform future implementation of the SPARK Tool in community pharmacies.

Materials and Methods: We hosted two PE sessions with a total of 13 citizens using the deliberative dialogue method described by McMaster Health Forum. Recruitment took place provincially with support from NL SUPPORT, the NL Health Services Patient and Family Advisory Committee, and social media. Each session was recorded and transcribed. Data analysis is ongoing, using the rapid and rigorous qualitative data analysis technique, called the RADaR technique, for applied research. Preliminary findings will be presented.

Results and Discussion: The accessibility of community pharmacists was viewed positively and with great potential to tackle SDoH. However, many participants acknowledged that social conditioning may negatively impact public acceptance/uptake of pharmacist screening for social needs. Expansions to the MyHealthNL infrastructure to allow for self-reporting, as well as data collection by pharmacists, were suggested. Inclusive and respectful trauma-informed approaches to care that will improve communication between pharmacists, other health professionals, and their patients were described as necessary strategies to move this initiative forward.

Conclusion: Generally, the participants in our PE session saw value in pharmacists' screening for social needs. They identified several needs, gaps, and opportunities which inform the development of a more holistic approach to implementation.

Understanding Patient Experiences of Pharmacist-Led Comprehensive Medication Assessments

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Introduction:

Patients with multimorbidity and medication complexity often seek supports to understand their medications and ensure they are receiving appropriate, safe and effective therapy. Pharmacist administered comprehensive medication assessments (CMA), such as those offered by the Medication Therapy Services Clinic (MTS), can play an important role in improving patient care. Understanding patient experiences with CMAs helps understand what patients need, what they view as beneficial, and ways their care can be improved. Between 2021-2023, we conducted an evaluation of CMA performed at the MTS clinic by measuring patient-reported changes using a standardized questionnaire, the Medication-Related Burden Quality of Life (MRB-QoL) questionnaire, which has been presented. The goal of this study was to assess the extent to which the MRB-QoL adequately reflected patient experiences with their CMA at the MTS Clinic.

Materials and Methods:

Patients who received a CMA at the MTS Clinic were invited to participate in a one-hour semi-structured interview about their experience, focusing on their reasons for seeking a CMA and whether their needs were addressed. Interviews were conducted by a pharmacy student and research coordinator. Interviews were recorded and transcribed, and transcriptions were analyzed manually by two pharmacy students. A deductive content analysis was used to identify codes related to the domains of the MRB-QoL. Like codes were combined into themes by the research coordinator. Themes that did not fit within the domains of the MRB-QoL were noted separately.

Results and Discussion:

Eight interviews were conducted over the phone (n= 4) and in person (n= 4), at the preference of the participant. Emerging themes of the analysis showed patients primarily came to the clinic with concerns relating to the domains of Psychological Burden (PB) and Routine and Functional Role Limitation (FRL). After their CMA, patients expressed improvement in domains of PB and FRL that related to the reasons they initially came. There were additional improvements in domains of FRL and Therapeutic Relationship (TR) for reasons not expressed by patients as initial concerns. Themes relating to financial constraints and concerns about medication efficacy were expressed by participants but are not represented by the domains of the MRB-QoL. Perception of both positive and neutral overall change in QoL were reported.

Conclusion:

The MRB-QoL questionnaire provides a fair representation of most concerns expressed by participants, however it does not completely describe all concerns or areas addressed through the CMA, suggesting that our quantitative evaluation may underrepresent the value ascribed to the services received by patients. These qualitative findings complement our previously reported quantitative findings and help us better understand the needs and experiences of those who receive CMA through the MTS Clinic.

Graduate Abstracts

Effects of Higher Cannabis Minimum Legal Age on Alcohol Use, Cigarette Smoking and Mental Health among Adolescents: Evidence from Quebec

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ABSTRACT

Background: Quebec raised the cannabis minimum legal age (MLA) from 18 years to 21 years in January 2020, setting the highest MLA for cannabis in Canada. While cannabis use is prevalent among Canadian youths, alcohol remains the most commonly used substance among youths, followed by tobacco and opioids. With a higher cannabis MLA, there is a concern that the policy may have unanticipated effects, such as increasing the use of other substances like alcohol and cigarettes, or negatively impacting mental health among young people. This study investigated these effects by comparing the changes in substance use and mental health before and after Quebec's higher MLA policy implementation with trends observed in the other Canadian jurisdictions.

Method: We used difference-in-differences analysis to evaluate changes in alcohol use, cigarette smoking, anxiety and mood disorders among youths aged 15 to 20 years in Quebec vs all other Canadian provinces before and after Quebec's implementation of a higher cannabis MLA. We also conducted sub-group analyses by age.

Results: The policy was associated with a moderate decline in smoking prevalence in Quebec compared to other provinces. Meanwhile, drinking prevalence in Quebec has increased slightly (especially for those aged 18-20) or remained unchanged, depending on the model specifications. Notably, the higher MLA was associated with a reduced likelihood of anxiety and mood disorders.

Conclusions: Raising the cannabis MLA in Quebec did not result in drastic shifts in alcohol use and cigarette smoking among youths, while being associated with better mental health outcomes compared to the youths in other Canadian provinces.

Cost-effectiveness of Nirsevimab and Abrysvo for Preventing Respiratory Syncytial Virus Disease in Infants Across Canada

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Introduction:

Infants in Canada's remote northern Inuit communities have much higher respiratory syncytial virus (RSV) hospitalization rates than infants in southern Canada. New prophylactics are available for preventing RSV disease in infants (nirsevimab, a long-acting monoclonal antibody, and Abrysvo®, a maternal vaccine), but no detailed evidence exists on the cost-effectiveness of these products and how it may vary across the country.

Methods:

A decision tree model was built to follow twelve monthly birth cohorts through their first year of life, with risk differentiation for prematurity, comorbidities including congenital heart disease and chronic lung disease of prematurity, and Canadian region, including southern Canada, the Northwest Territories, Nunavut, and Nunavik, Quebec. The model tracked medically-attended infections including hospitalizations, intensive care unit admissions, and outpatient visits. Costs (in 2024 Canadian dollars) and quality-adjusted life years were compared for nine different immunization strategies, using both a healthcare and a societal perspective.

Results:

At base case prices, immunizing only high-risk infants with nirsevimab is most cost-effective in southern Canada. In contrast, expanded coverage to some degree is more cost-effective in every northern region, and universal administration of nirsevimab is likely to be cost-effective in Nunavut at any realistic price. For universal, country-wide administration of nirsevimab to be the most cost-effective prevention strategy, nirsevimab would have to be less than $112 per dose.

Conclusion:

While both nirsevimab and Abrysvo® offer a cost-saving alternative to the status quo of palivizumab for preventing RSV disease in infants across Canada, universally administered prophylaxis is unlikely to be cost-effective unless the price of either product is sufficiently low. The optimal strategy for expanding prophylactic coverage varies between regions, and Canadian policy should reflect this discrepancy.

Teacher Perspectives on a Skills-Based, Harm-Reduction Substance Use Education Program

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Introduction:

Youth and young adults aged 15 to 24 face the highest rates of substance use disorders in Canada. Prevention and harm reduction is essential to best support youth. There are significant gaps in substance use (SU) education for students in Canada. Our interdisciplinary team developed a drug education strategy called DECYDE - Drug Education Centred on Youth Decision Empowerment. Our goal is to empower youth to make safe and informed choices.

Materials and Methods:

Our mixed-methods research study gathered teacher perspectives on DECYDE's harm reduction, trauma-informed, skills-based SU health education. This included pilot testing feedback on classroom materials and resources through a survey, a detailed feedback form, and qualitative interviews. Survey data was analyzed using descriptive statistics. Qualitative interviews and open-ended survey responses were analyzed using inductive thematic analysis using NVivo.

Results and Discussion:

Ten teachers participated. All teachers who reviewed the materials either agreed or strongly agreed that it was relevant, reported that they planned to use it in the classroom and that the website was easy to navigate. Four main themes with sub themes were identified, including skills-based health education, decision making, substance use, and student experiences. The teachers emphasized the timeliness and necessity of DECYDE as they report ongoing substance use among students. In addition, the teachers felt that students of all backgrounds (diverse needs, languages, etc.) were engaged and enjoyed the program.

Conclusion:

These findings provided valuable insight into the direction of SU education and that DECYDE can help fill the gap that is lacking in SU education. DECYDE was informative, engaging, and comprehensive, and can be used by teachers across Canada to deliver prevention and harm-reduction SU education.

Patients' Experienced Acceptability of Blood Pressure Screening in Pharmacies: May Measurement Month 2024 in Newfoundland and Labrador

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Introduction: Hypertension is a major risk factor for cardiovascular events. Screening for high blood pressure (BP) is an essential first step. The annual May Measurement Month (MMM) campaign aims to raise awareness about the risks of high BP and offer screening to adults. My research evaluates patients' acceptability of community pharmacy-based BP screening during the MMM 2024 campaign in Newfoundland and Labrador.

Methods: Situated within the Theoretical Framework of Acceptability, this project uses a mixed-methods design consisting of a survey followed by one-on-one qualitative interviews. Acceptability constructs explored include affective attitude, burden, perceived effectiveness, ethicality, intervention coherence, opportunity costs, and self-efficacy. A validated questionnaire was used to collect quantitative data as well as free-text responses from MMM 2024 participants. Survey data were analysed, and the results informed the development of the semi-structured interview guide.

Results and Discussion: 222 participants from 22 pharmacies were eligible to participate. Thirty-one participants (14.0%) completed the survey and were invited to take part in the interview. Mean age of participants was 49.7 years (SD 16.0) and 58.1% were women. In terms of overall acceptability, 97% of participants found BP checks at pharmacies acceptable, and 80.6% indicated they would like to see BP screening become a regular pharmacy service. Analysis of textual survey data is ongoing, and interviews are being scheduled.

Conclusion: Preliminary survey findings indicate high levels of experienced acceptability among patients who took part in the MMM 2024 campaign in community pharmacies. Data collection is ongoing. The integration of qualitative and quantitative findings will inform improvements to community pharmacy-based BP screening practices and future scale-up of the MMM campaign across Canada.

Resident Abstracts

Clinical Impact of Pharmacist-Led Oral Anticancer Agent Outpatient Monitoring Program

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Introduction: This study explores the impact of pharmacist-led monitoring on *tolerability* of oral anticancer agent treatment. Patients treated with these agents in Atlantic Canada receive varying degrees of follow-up by oncology pharmacists - ranging from routine clinical proactive/reactive monitoring, assessment and intervention (St. John's, NL), to solely blood work monitoring (Saint John, NB).

Methods: Multi-centre retrospective matched cohort chart review set between June 2015 - June 2023 in St. John's and Saint John. Eligible study individuals were treated with cabozantinib, pazopanib, sunitinib, or axitinib. Study cohorts were selected using cross-site pairwise matches to ensure equal baselines. Individuals were matched on the basis of drug, age, sex, and disease site/stage. Outcomes measured include: total time on treatment (primary), incidence/severity of toxicities, hospital admissions, ER visits, dose delays, and dose reductions.

Results: Total n = 42 was included in the final analysis. Patients in NL who received pharmacist-led monitoring were able to stay on treatment for double the mean total time (days) [225 vs 449; HR: 0.50; $p<0.001$], compared to patients in NB. NL had a third of the number of treatment delays [61 vs 20; HR 3.05; $p<0.001$], and less than half the number of emergency room visits [17 vs 6; HR: 2.83; $p<0.001$]. The NL cohort had a greater total number of toxicities reported [120 vs 24; HR 5; $p<0.001$] due to the rigorous monitoring program that identified and documented them. Early detection and intervention by pharmacists, however, evidently benefited patients in that a significantly lower percentage of toxicities were severe [12.5% vs 58%; HR 0.22; $p<0.001$]. Tolerability concerns were addressed and managed before progressing. A total of 79 interventions were made by pharmacists among the NL cohort, whereas 39 pharmacist interventions occurred within the NB cohort [HR 2.03].

Conclusion: Tolerability of oral anticancer agents directly correlates with increased levels of pharmacist monitoring and intervention. Findings endorse maintenance/expansion of local programs, as well as implementation/expansion of programs within other health authorities. The data reveals value to all: the patient population, the health authorities, and pharmacy practice.

The Implementation Of A Pharmacist-Led Testing Service For HIV And Hepatitis C In Rural NL Correctional Facilities: A Pilot Study

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Introduction:

Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) are sexually transmitted and bloodborne infections that disproportionately affect incarcerated populations. Point-of-care (POC) testing in correctional facilities aims to overcome barriers relative to traditional testing. This study aims to assess the feasibility and acceptability of a pharmacist-led testing service for HIV and HCV in rural correctional facilities in Newfoundland and Labrador (NL).

Materials and Methods:

This pilot study used a prospective, interventional cohort study design. Individuals incarcerated at each of three rural adult corrections facilities in NL were invited to participate. Testing visits occurred at each facility during January and February 2024, and participants were offered POC testing for HIV and/or HCV. Testing pharmacists provided pre and post-test counselling, administered POC test(s), and explained results to participants. Those with reactive POC test results or an exposure in the window period for the test were offered confirmatory testing. Participant MCP numbers were collected to link confirmatory test results. Participants were asked to complete surveys to collect demographics, risk behaviours, and testing experiences. Chocolate bars were offered as a thank you for participation. Data was collected to assess testing uptake (number of tests performed), test results (reactive or non-reactive), and new diagnoses (confirmatory test result). Demographic, risk behavior and acceptability data were analyzed using descriptive statistics and are presented as aggregate to protect privacy.

Results:

75 participants of 103 total incarcerated individuals volunteered to receive HCV and/or HIV testing. A total of 74 participants had 58 HCV tests and 73 HIV tests performed in the study. There were no reactive HIV POC results; however, six participants had reactive HCV POC results. All six as well as four participants who fell in the window period for exposure received confirmatory testing. Four new HCV infections were diagnosed, each of which received follow-up. Most participants who volunteered for testing had never been tested before (46%), have inhaled or injected substances (59%) and were curious about their status (73%) as their reason for getting tested. Participants expressed the highest level of comfort in testing by pharmacists (100%) without discrimination (99%) and believe that testing should always be available in corrections (100%).

Discussion and Conclusion:

This pilot study demonstrated that HIV and HCV POC testing by pharmacists was both feasible and highly acceptable to participants in rural corrections facilities in NL. New cases of HCV infection were found. Providing acceptable testing options for people in corrections can lead to finding new diagnoses and opportunities to offer treatment, to reduce the burden of HCV and HIV in this vulnerable population.