PUBLIC HEALTH 2024
23–25 APRIL HALIFAX

ABSTRACT SESSION 5 TUESDAY 23 APRIL 15:30-16:45 ROOM 506 - 507

Public health mobile units bringing COVID and flu services to the community — *Beth Gillis*

Introduction/program need and objectives:
The Public Health Mobile Unit (PHMU) was established in 2020 as part of Nova Scotia's COVID-19 public health pandemic response strategy. The program consists of 10 vans stocked with supplies, resources, and PHMU staff. The PHMU provided mobile COVID testing services to fulfill the need for PCR testing in rural communities and communities experiencing COVID outbreaks. As the needs of community continue to shift, PHMU responds accordingly.

Program methods, activities and evaluation:
Initially, PHMU clinics offered PCR testing but expanded to provide point-of-care testing, rapid test distribution, publicly-funded routine immunization, COVID & Flu immunizations, and collaborative clinics with primary care. PHMU clinics are held in community spaces, and aim to ensure all Nova Scotians have access to COVID and Flu services as needed, especially in rural communities that could benefit from increased access to services. PHMU also works in partnership with African Nova Scotian and First Nation communities, offering services in communities experiencing marginalization created by systems of oppression. PHMU dispatch is determined by outbreak support, community contexts, COVID-19 activity, and staff reports. PHMU informally evaluates their work through the continuous learning cycle of plan, do, study, act. In 2023, a formal, internal evaluation of the programs approach, policies and processes was conducted.

Program results or outcomes:
The evaluation revealed approaches and facilitators that contribute to the PHMU's success. Embracing an iterative and resilient approach, applying a health equity lens, strong leadership support, being innovative, tolerating risk, engaging community, leveraging community support, collaborating, and building partnerships are facilitators that continue to make PHMU successful. Since its inception PHMU has held 1880 clinics in 176 communities, conducting 76,813 PCR tests, providing 4500 doses of vaccine and distributing 14,069 rapid test kits.

Recommendations and implications for practice or additional research:
Approaches and facilitators that have led to the PHMU's successful implementation and on-going work can be leveraged by other areas of public health and decisionmakers to strengthen similar initiatives.

Willingness of Canadian community pharmacists to adopt a proactive life-course vaccination practice: A qualitative study - *Nancy Waite*

Introduction/background:
To facilitate access to vaccines and increase coverage, all Canadian provinces and the Yukon territory allow pharmacists to administer vaccines, with some product- and age-based restrictions. Given the success of pharmacy-based immunizations for influenza and COVID, pharmacists conducting life-course vaccine screening and administration for all adult vaccines is logical. We aimed to better understand Canadian pharmacists' willingness to provide more comprehensive vaccination services, identify facilitators, and assess vaccine fatigue.

Methods:
We recuited pharmacists for online interviews through a national community pharmacist Facebook group, and used purposive sampling to select a diverse sample of participants based on gender, province, and number of years in practice. Interviews were conducted using a semi-structured guide which included questions about vaccination experiences, perceptions of assuming a proactive vaccinator role for adults and children, and current level of vaccinator fatigue. Interviews were audio-recorded, transcribed, and coded independently by two researchers; themes were identified using content analysis.

Results and analysis:
In spring 2023, interviews were conducted with 24 pharmacists from five Canadian provinces. Overall, participants felt that their vaccine fatigue had lessened since the pandemic's acute phase, and they were receptive to a proactive vaccinator role. Several modifications were identified that would facilitate a successful implementation. On a system-level, these included access to patient vaccination history, the ability to administer all publicly-funded vaccines, and fair compensation for the increased scope, particularly for pediatric vaccinations. Participants also requested the development of electronic tools that connected to pharmacy systems to help navigate complex vaccine guidelines and clinical decision making. They also spoke of logistical challenges related to the incorporation of vaccination into their workflow, and staffing.

Conclusions and implications for policy, practice or additional research:
Pharmacists are interested in expanding their vaccination services offerings, including proactive screening and vaccination of young children. This should be further supported through both system-level and practice-level modifications.

The Tale of Two Assumptions: Incorporating Health Seeking Behaviour in a Deterministic Model for Influenza - *Marie Varughese*

Introduction/background:
Modelling efforts during the COVID-19 pandemic highlighted the significance of health-seeking behaviour on transmission dynamics within a population. Health seeking behaviour such as testing and access of healthcare services are important considerations that impact how cases are identified through surveillance systems. In mathematical modelling, cases reported to surveillance systems are often used for retrospective and prospective analysis.

Methods:
An age-stratified susceptible-infectious-recovered deterministic model that incorporates case detection for influenza is constructed. This mathematical model uses influenza data and case detection rates for influenza seasons between 2016 and 2019 from Alberta Health's administrative data. The model is stratified into three age groups: <19, 19 to 64 and 65 years and older. A constant and time-dependent

assumption of case detection is incorporated in the model. Basysian parameter fitting methods are used and data is compared retrospectively for each respiratory virus season.

Results and analysis:
Retrospective analysis showed comparable fitting results of influenza cases using both constant and time dependent case detection rates, however the total number of people infected and under-reporting and/or under-ascertainment rates differed across the two case detection assumptions. A constant case detection assumption consistently led to higher estimates of total people infected compared to using a time-dependent case detection rate. This highlights important considerations for model assumptions related to health seeking behaviour in respiratory virus modelling.

Conclusions and implications for policy, practice or additional research:
This result has implications for interpreting mathematical modelling results related to respiratory viruses used to support policy and decision making. Important policy-related questions such as under-ascertainment rates and restrospective evaluations (including cost-effectiveness) of potential interventions can be impacted.

Does Influenza Vaccination protect against Long Term Care admission? A report from the Canadian Immunization Research Network Serious Outcomes Surveillance Network - *Melissa K. Andrew*

Introduction/background:
Influenza outcomes are often considered over short-term time horizons. Long-term outcomes are less well understood. We aimed to explore outcomes of older adults hospitalized with laboratory-confirmed influenza (LCI), focusing on changes in formal home care and living arrangements, including incident transfers to Assisted Living or Long-Term Care (AL/LTC) from baseline (prior to hospitalization) to 30 days post-discharge.

Methods:
Using pooled SOS Network surveillance data from influenza seasons 2011/2012 through 2018/2019, we identified individuals aged 50+ who lived in private residences and were admitted to hospital with LCI. We excluded individuals missing data on discharge residence, cases of in-hospital death, and transfers to other hospitals. We used Inverse Probability of Treatment Weighting (IPTW) to adjust regression models for confounding.

Results and analysis:
We enrolled 6,657 individuals with LCI, aged between 50 and 85+ years. Nearly half of participants (45%) required baseline informal support for activities of daily living. Most (58.5%) had not received seasonal influenza vaccination >=14 days prior to falling ill. Median duration of hospitalization was 5 days [IQR 3-9]. In the IPTW negative binomial regression model, influenza vaccination was associated with 13% shorter hospitalization duration compared to being unvaccinated (Incidence Rate Ratio [IRR]=0.87 [95% CI, 0.83 - 0.92]; p<0.001). Around 5% of the participants experienced incident AL/LTC admission. Longer hospital stays were associated with higher risk of institutionalization. The probability of not requiring AL/LTC was 94.1% (93%-95.3%) on day 14. This decreased to 87.9% (85.8%-90%) by day 21 and 78.5% (75.2%-81.9%) by day 30. We are currently exploring vaccine effectiveness in preventing AL/LTC.

Conclusions and implications for policy, practice or additional research:
Older adults hospitalized with influenza are at risk of long-term poor outcomes, including persistent functional decline requiring increased functional supports. Some are newly admitted to AL/LTC. Maintenance of function through preventing influenza and severe illness/hospitalization is an important goal of influenza vaccination.

Influenza vaccination over time among adults in Canada from 2018-2019 to 2022-2023 - Ruoke Chen

Introduction/background:
The Public Health Agency of Canada conducts the Seasonal Influenza Vaccination Coverage Survey annually to collect information on influenza vaccine uptake among adults in Canada, as well as their reasons for non-vaccination, knowledge, attitudes, and beliefs regarding the vaccination. Using the survey results from 2018-2019 to 2022-2023, we analyzed changes in influenza vaccine coverage before, during, and after the COVID-19 pandemic in Canada.

Methods:
The survey was conducted by Léger Marketing using a computer-assisted telephone interviewing (CATI) system. Data collection takes place in January and February of each year. The survey response rate was between 10% to 20% and the sample size ranged from 3,026 to 3,737. Influenza vaccination coverage was estimated using weighted prevalence proportions. Chi-squared tests with a p-value <0.05 were used to determine significant differences in vaccination coverage between flu seasons within each age group.

Results and analysis:
In Canada, influenza vaccination coverage among adults increased from 39% in 2021-2022 to 43% in 2022-2023, and is now back to pre-pandemic level (42% in 2018-2019). Among high-risk groups, vaccination coverage for adults 18-64 years of age with chronic medical conditions and seniors 65 years of age and older remained steady over the past seasons. In 2022-2023, only 43% of adults 18 to 64 years with chronic diseases having been vaccinated. Vaccination coverage among seniors (74%) was closer to the national coverage goal of 80%. Moreover, the proportion of adults vaccinated in pharmacies increased from 35% in 2018-2019 to 52% in 2022-2023. This rise can be attributed to the growing number of jurisdictions that allow pharmacists to administer the influenza vaccine.

Conclusions and implications for policy, practice or additional research:
Ongoing efforts to promote and educate the adult population on the benefits of recommended vaccines is required to increase uptake, particularly among the population who are considered at high risk of severe complications.