

Pneumonia vaccination in at-risk groups: A Canadian perspective

**Increasing relevance
in a pandemic era**

Consensus Statement

From the Expert Meeting held 20 October 2020

Given the alarming frequency of infectious disease outbreaks and epidemics in recent history, the international community has repeatedly called for expanded and sustained investments in health promotion and preventive health strategies such as immunization.^{1,2} The current COVID-19 pandemic highlights critical gaps in immunization infrastructure, schedules and vaccination portals to those most at risk of serious and life threatening infectious diseases, namely older adults and those with underlying health conditions.

Pneumonia is a common infectious disease which is significantly underestimated as a cause of mortality and long-term functional decline. Vaccine-preventable pneumonias include pneumococcus, pertussis, influenza and soon, COVID-19. Pneumonia ranks as the sixth leading cause of hospitalization and the eighth most common cause of death in Canada yet receives little attention compared with other respiratory infections.³ Pneumonia vaccination rates remain abysmally low even though immunization policies and practices are an integral part of an effective public health strategy. A recent study reported that just 58% of Canadians aged 65 years and older, and only 25% of adults aged 18 to 64 years with chronic conditions were vaccinated in 2019.⁴ Meanwhile the target vaccination coverage rate for children under the age of 2 years was set at 95%, with conservative estimates suggesting 80% of Canadian children have been vaccinated against pneumococcal disease.³ These disparities however will not change when pneumonia vaccines are neither uniformly recommended nor universally publicly funded in all Canadian provinces and territories for older people and at-risk populations.⁵

On 20th October 2020, the International Federation on Ageing (IFA) convened an expert meeting entitled “*Pneumonia vaccination in at-risk groups: A Canadian Perspective – Increasing relevance in a pandemic era.*” Experts in the field of infectious diseases, leaders in patient, ageing and at-risk population organizations, professional associations and health care providers deliberated on the factors contributing to the low rates of adult pneumonia vaccination and the significant social and economic consequences for a nation that is ageing and has a growing prevalence of noncommunicable diseases.

This consensus statement outlines the issues and actions that delegates concurred must take place towards the common goal of improving the rates of adult pneumonia vaccination in Canada.

Burden of Disease

There is a significant underestimation of the burden of pneumonia in Canada due largely to insufficient data and inappropriate use of diagnostic tests. It is also likely that pneumonia may be recorded as secondary to another diagnosis, thus excluding those cases from the recorded pneumonia rates. An incomplete and inadequate evidence base is a considerable barrier in the development of effective pneumonia immunization policies.

The rates of death and functional decline increase with population ageing and the increase in chronic underlying conditions. Adults aged 50-64 years accounted for 43% of pneumonia cases, compared with adults aged over 65 years who accounted for about 52% of cases in a recent study.⁶ Among the 50-64 years of age cohort, about 25% report a chronic medical condition such as asthma, diabetes, heart disease, and others, putting them at-risk for severe outcomes associated with pneumonia.⁷

Notwithstanding that these Canadians are at highest risk of pneumonia and its complications, there remain barriers to accessing potentially life-saving pneumonia vaccines due to variations in provincial and territorial adult vaccination schedules.

Improving both the surveillance and reporting of pneumonia would help clarify when pneumonia is a primary or contributing cause of hospitalization and death. In spite of recent expansion in the use of diagnostic tools, barriers remain in effectively diagnosing pneumonia in older people and those with chronic conditions. This significantly affects data collection around incidence and long-term health outcomes.

Currently, studies estimate about 12.5% of adult community acquired pneumonia hospitalizations are potentially vaccine-preventable.⁸ However, in addition to the significant cost of hospitalization of around \$15,000CDN per patient, pneumonia significantly impacts the functional and cognitive abilities of older and at-risk Canadians in the long term. Studies have shown that upon hospitalization, pneumonia and influenza rank among the leading causes of “catastrophic disability,” defined as a loss of independence in at least 3 activities of daily living.⁹ Data on the subsequent cost for long-term care and repeat hospitalizations are not available. Consequently, the true social and economic burden on health, social and informal (family) care systems is substantially undervalued.

The return on the investment into effective immunization programs is well-documented and offers considerable returns. There is a strong social and economic rationale for investing in improving adult immunization infrastructure. This includes research, surveillance, national immunization registry and measurable public health campaigns.

National Immunization Information

A barrier to increasing vaccination rates is the lack of adult vaccine registries across provinces and territories, and differences in the public health vaccination reporting requirements. Provincial and territorial Ministries of Health would benefit from comprehensive and accurate information on adult vaccinations to better understand in real time which adult has received what vaccinations, as well as when and where it was provided. All adult vaccines, whether provided in long term care facility, a pharmacy, or a clinic should be captured in a vaccine registry. This is made possible by utilizing already-existing vaccine barcodes to track vaccinations and is critically important for the implementation of a safe and effective COVID-19 immunization strategy as well as other recommended adult vaccines.¹⁰

Public awareness of adult vaccines in Canada, particularly in comparison to childhood vaccines, remains inadequate. Further, the values and needs of those with underlying health conditions and older adults are insufficiently reflected in public health messages on immunization. The need for greater focus on adult pneumonia vaccination, and adult immunization more broadly is unprecedented.

A public campaign on vaccination should emphasize that preventing illness and functional decline in older age is achievable and is a public health priority. Curating messaging that encourages positive behaviours which maintain health rather than incite fear is more likely to encourage adults to accept immunizations than negative messaging, and may help improve adult immunization rates for all Canadians.

Harmonization of Good Practices

Canada's current immunization system is not equitable. Significant disparities across provinces and territories in adult immunization policies and practices are historical and ongoing. The COVID-19 pandemic presents an opportunity to reassess existing infrastructure. This must begin with robust provincial and territorial vaccine registries that in the future could together form a National Vaccine Registry, long a goal of public health.

Children, youth, older people, those with chronic medical conditions and those with behavioral risk factors such as smoking and drinking or being homeless are all at potential risk for vaccine-preventable infections because of disharmony of schedules. The patchwork of vaccine schedules is confusing to patients and health care providers, and creates access inequities and added safety (reliability) issues in the system, particularly in the current COVID-19 pandemic.

Provinces and territories should strive to learn from one another by sharing successful strategies proven to optimize adult vaccination rates. Expanding the role of pharmacists in Canada to provide immunizations as part of a greater immunization strategy across all provinces and territories is one means of increasing access to adult pneumonia vaccines for all Canadians. Streamlining immunization surveillance through a robust, all-inclusive, accessible immunization registry would enable Canadians to become more engaged in their immunizations and help to ensure timely vaccination.

Building on the global momentum to improve adult vaccination as proposed by the World Health Organization [Immunization Agenda 2030: A Global Strategy to Leave No One Behind](#) and in the context of the [Decade of Healthy Ageing](#), delegates call for a cross-sectoral approach to prioritize vaccination against respiratory disease to reduce functional decline, hospitalizations, morbidity, mortality and healthcare costs, especially in light of the COVID-19 pandemic.

The “*Pneumonia vaccination in at-risk groups: A Canadian perspective – Increasing relevance in a pandemic era*” expert meeting represents the coming together of unlike groups to bridge professional boundaries with one voice to advocate for improved adult pneumonia immunization policies and practices across Canada, particularly for older Canadians and those with underlying health conditions.

For queries relating to this document, please contact: astancu@ifa.ngo.

Signatories



Individual Signatories

Ms. Betty Golightly, Go Travel Health

Dr. Ronald Grossman, Trillium Health Partners

References

- 1 Quinn, S. C., and Kumar, S. (2014). Health Inequalities and Infectious Disease Epidemics: A Challenge for Global Health Security. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*, 12, 5. Available from: <https://bit.ly/3mqGrzx>
- 2 Madhav, N., et al. (2017). Pandemics: Risks, Impacts, and Mitigation. In: Jamison, D. T., et al. *Disease Control Priorities: Improving Health and Reducing Poverty*. 3rd Edition. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2017 Nov 27. Chapter 17. Available from: <https://bit.ly/3mxdW3j>
- 3 Canadian Institute for Health Information. (2020). Inpatient Hospitalization, Surgery and Newborn Statistics, 2018–2019. Available from: <https://bit.ly/37lqqRv>
- 4 Public Health Agency of Canada. (2019). Vaccine uptake in Canadian Adults 2019. Available from: <https://bit.ly/2H5Fei2>
- 5 Kaplan, A., et al. (2019). Vaccine strategies for prevention of community-acquired pneumonia in Canada; Who would benefit most from pneumococcal immunization? *Canadian Family Physician*, 65, 9, 625-633. Available from: <https://bit.ly/34vYeiy>
- 6 Shea, K. M., et al. (2014). Rates of Pneumococcal Disease in Adults With Chronic Medical Conditions. *Open Forum Infectious Diseases*. Available from: <https://bit.ly/37b5nVP>
- 7 Pelton, S. I., et al. (2015). Rethinking Risk for Pneumococcal Disease in Adults: The Role of Risk Stacking. *Open Forum Infectious Diseases*. Available from: <https://bit.ly/3q407vD>
- 8 LeBlanc, J., et al. (2020). Age-stratified burden of pneumococcal community acquired pneumonia in hospitalised Canadian adults from 2010 to 2015. *BMJ Open Respiratory Research*, 7, e000550. Available from: <https://bit.ly/2UzDHDW>
- 9 McElhaney, J. E., et al. (2020). The immune response to influenza in older humans: beyond immune senescence. *Immunity & Ageing*, 17, 10. Available from: <https://bit.ly/3pBTWpp>
- 10 Gorfinkel, I. (2020). A national vaccine registry blueprint. *Canadian Medical Association Journal*. Available from: <https://bit.ly/2IKSI3v>

International Federation on Ageing
1 Bridgepoint Drive, Suite G.238
Toronto, ON, M4M 2B5, Canada

www.vaccines4life.com

Published December 2020 © Vaccines4Life