

## **Policy Brief**

# **Supporting Access to Better Pneumococcal Vaccines for Older Adult Canadians**

Prepared by

Pneumonia Awareness Consortium  
In collaboration with the Society for Intelligence  
Management (SIM) Canada

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### **About the Pneumonia Awareness Consortium**

The Pneumonia Awareness Consortium is a collaborative of health advocates, including non-governmental organizations, dedicated to spreading evidence-based knowledge. Our goal is to drive meaningful change across Canada by investing in both individual and societal health literacy, encouraging critical thinking and empowering people to make informed, independent decisions.

Our mission is to prevent pneumonia through proactive education, targeted outreach, and strong community support. We are committed to delivering accurate, unbiased information that helps individuals take charge of their health. To learn more about us, visit <https://pneumoawareness.ca/>

### **About the Society for Intelligence Management**

The Society for Intelligence Management (SIM) is an independent association that promotes evidenced based knowledge translation, education and training, communication, and decision making. Its mandate is to ensure that the flow of information is accurate, reliable, and contributes to informed decision-making in a rapidly evolving world. To learn more about SIM, visit <https://intelsociety.org/>

### **About this Policy Brief**

This policy brief synthesizes current evidence on pneumococcal vaccination policy for older adults in Canada. It aims to inform policymakers and health system managers by presenting key findings and identifying opportunities for evidence-informed public health strategies that support Canada's efforts to control pneumococcal disease. All stakeholders should have access to new knowledge and innovative approaches that can strengthen prevention efforts.

### **Methodology**

The World Health Organization (WHO) defines health policy as the 'decisions, plans, and actions (inactions) undertaken to achieve specific health care goals within a society or undertaken by a set of institutions and organisations, at national, state and local level, to advance the public's health.'<sup>1</sup> The actor(s), content, and context(s) process(es) involved in health policy-making are often very complex.

Although health policymaking is complex, it must be informed by the latest primary and systematic evidence. This policy brief presents a synthesis of the literature to understand what is known about pneumococcal vaccination in older adults and how to prevent it. The expanded version of the health policy triangle (HPT) framework by Walt and Gilson is used to present evidence in a systematic way.<sup>2</sup>

### **Acknowledgement**

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<sup>1</sup> World Health Organisation (WHO) 2020. Health policy; O'Brien GL, Sinnott SJ, Walshe V, Mulcahy M, Byrne S. Health policy triangle framework: Narrative review of the recent literature. *Health Policy Open*. 2020. 6(1):100016.

<sup>2</sup> Walt G, Shiffman J, Schneider H, Murray SF, Brugha R, Gilson L 'Doing' health policy analysis: methodological and conceptual reflections and challenges. *Health Policy and Planning*. 2008.23(5):308–317.

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## POLICY COMMUNICATION HIGHLIGHTS

- The severity of pneumococcal disease in older adults underscores the critical importance of immunization with vaccines offering comprehensive coverage against circulating strains.
- Newer pneumococcal vaccines demonstrate greater cost-effectiveness compared to previous vaccines used in public programs. Economic analyses confirm their cost-effectiveness for adults under 50 with immunocompromising conditions and adults aged 65 and older in various high-income countries.
- Pneumococcal vaccination is a significant strategy for reducing the risk of cardiovascular disease, especially in older adults and those with pre-existing cardiovascular conditions or risk factors.
- Prioritize expanding access to newer pneumococcal vaccines designed for improved protection against circulating serotypes for older Canadians, regardless of their immune status.
- Provide comprehensive educational resources and training for healthcare providers to ensure a well-informed consent process for vaccination.

## **Introduction: Pneumococcal Disease in Canada**

Older adults are vital contributors to Canadian society, through volunteering, caregiving, community service, and continued participation in the workforce. However, many live with multiple chronic conditions, such as asthma, diabetes, and heart disease, which increase their vulnerability to poor health outcomes. Seasonal and endemic respiratory illnesses, including pneumococcal disease, pose a serious threat, often leading to hospitalization, loss of independence, and even death, particularly among the very young and older adults.

Several vaccine-preventable pneumococcal serotypes are major contributors to hospitalizations and deaths. Individuals hospitalized with pneumococcal disease may experience increased frailty and may not regain their previous level of health or independence in daily activities. An older adult may enter the hospital as a healthy, active individual, but leave weaker, requiring rehabilitation and facing a higher risk of additional health complications. The spread of antibiotic resistant pneumococcal serotypes has also emerged as a new threat to the health of older adults.

The National Advisory Committee on Immunization (NACI) recommends the use of several new conjugate vaccines (Vaxneuvance, Capvaxive, and Prevnar 20) that provide additional protection against circulating strains (See Table 1 in Appendix A). The severity of pneumococcal disease in older adults, particularly those 65 years of age and older or 50 years of age and older and living with a chronic disease, substantiates the importance of immunization that provides the best and most comprehensive coverage to match circulating strains of impact. Despite the known benefits of new pneumococcal vaccines, many older adults are not immunized and are not aware they are eligible for publicly funded vaccines.

## **Pneumococcal Vaccination Coverage Among Older Adults**

The Public Health Agency of Canada (PHAC) has set a goal of achieving 80% pneumococcal vaccination coverage among all adults 65 years and older and among adults 18 years and older living with a chronic health condition by 2025. Year to year, this national standard has not been met. The Public Health Agency of Canada (PHAC) estimates that during the 2023-2024 respiratory infection season, only 38.5% of adults 18 to 64 years of age living with at least one chronic health condition were vaccinated against pneumococcal disease. For adults aged 80 years and over, estimated coverage was 62.8% (see Figure 1 in Appendix A).<sup>3</sup>

## **Hospitalization Burden Associated with Pneumococcal Disease in Older Adults**

Vaccine-preventable pneumococcal serotypes remain a significant cause of hospitalization, morbidity and mortality, in older adults (see Table 2 in Appendix A). Both community acquired pneumonia (CAP) and invasive pneumococcal disease (IPD) are associated with older age, greater disease severity, including intensive care (ICU) admission and an increased risk of frailty, all of which can contribute to rapid decline and hinder healthy ageing. These conditions are also linked to compounding complications that may result in a loss of independence and increased need for assistance with daily living activities. In addition to being easy to administer and cost effective, pneumococcal vaccines help to prevent severe outcomes in older adults with one or more chronic conditions, reducing care needs, time off work, lost opportunities to volunteer and avoidable hospitalizations. The risk of infection is also reduced in individuals with other underlying risk factors that affect immune system function or individuals with social, environmental and behavioural situations that make them more vulnerable to infection (see Table 3 in Appendix A).

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<sup>3</sup> Public Health Agency of Canada. Adult national immunization coverage survey (aNICS): 2023 results. Ottawa (ON): Government of Canada. 2024. Available at: <https://www.canada.ca/en/public-health/services/immunization-vaccines/vaccination-coverage/adult-national-immunization-coverage-survey-2023-results.html>

### **Potential Socio-economic Loss**

Pneumococcal disease in older adults can exacerbate already critical health and socio-economic problems afflicting society in numerous ways. Many older adults do not have support systems making them more susceptible to financial hardship, loneliness and social isolation. Older adults are also more likely to develop multiple chronic conditions like hypertension, cardio-vascular disease, and diabetes. All of which are risk factors for neurodegenerative diseases like dementia and Alzheimer's disease. Additionally, systemic social determinants of health (SDoH) exacerbate inequities in health and social services, which are barriers to older adults thriving, leading to reduced socio-economic contribution by older adults to society.

### **Cost-effectiveness of Pneumococcal Vaccines**

Newer pneumococcal vaccines have shown to be more cost-effective than prior vaccines used in public vaccination programs (see Table 4 in Appendix A).<sup>4</sup> Recent economic analyses have demonstrated cost-effectiveness in a variety of high-income countries for adults under 50 years of age living with an immunocompromising condition and in adults 65 years of age and older.<sup>5</sup> Also, pneumococcal immunization with newer vaccine products may have additional benefits by mitigating concerns surrounding antibiotic resistance, which strains an already fragile healthcare system.

### **Benefit of Risk Reduction for Cardiovascular Disease**

Emerging evidence supports pneumococcal vaccination as a notable risk reduction strategy for cardiovascular disease, particularly in older adults and those with pre-existing cardiovascular conditions or risk factors. While the primary benefit of the vaccine is to prevent pneumococcal infections, research indicates these infections can trigger or exacerbate cardiovascular events, including myocardial infarction (heart attack) and cerebrovascular accident (stroke), due to systemic inflammation and stress on the cardiovascular system. By preventing these infections, pneumococcal vaccination can indirectly mitigate associated cardiovascular risk. Meta-analyses and observational studies have shown associations between pneumococcal vaccination and a decreased risk of acute coronary syndrome events and all-cause mortality, especially in individuals aged 65 years and older, with some evidence suggesting a greater benefit from sequential dual vaccination strategies<sup>6</sup>. This protective effect underscores the broader public health importance of pneumococcal vaccination beyond respiratory health, contributing to improved cardiovascular and associated health outcomes.

### **Public Education and Awareness**

Vaccine hesitancy has grown increasingly complex and has reached unparalleled levels in Canada. Given this complex and urgent context, priority must be given to the careful planning of vaccine logistics, including delivery, workforce training, public education, consumer fears and fatigue, and the declining volume of public health messaging about the importance of pneumococcal vaccines for older adults.

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<sup>4</sup> Ximenes R, Simmons AE, Gebretekla GB, Nam A, Wong E, Salvadori MI, Golden AR, Sander B, Hildebrand KJ, Tunis M, Tuite AR. Cost-effectiveness analysis of 21-valent pneumococcal conjugated vaccine among adults in Canada. *Vaccine*. 2025. 30;54:126985.

<sup>5</sup> Simmons AE, Ximenes R, Gebretekla GB, Salvadori MI, Wong E, Tuite AR. Cost effectiveness of a 21-valent pneumococcal conjugate vaccine in adults: A systematic review of economic evaluations. *Can Commun Dis Rep*. 2025 12;51(2-3):84-91.

<sup>6</sup> Jaiswal V, Ang SP, Lnu K, Ishak A, Pokhrel NB, Chia JE, Hajra A, Biswas M, Matetic A, Dhett R, et al. Effect of pneumococcal vaccine on mortality and cardiovascular outcomes: A systematic review and meta-analysis. *J. Clin. Med*. 2022. 11;3799.

Immunization promoters typically work within various institutions including health authorities, ministries of health, non-governmental organizations, and the private sector. Their role is to inform and support policies and programs that encourage behaviour change to improve the health and well-being of individuals and communities.

Planning pneumococcal immunization campaigns requires reviewing relevant literature and evidence, and consulting with stakeholders. Integrating information from these sources can be challenging, even for well-trained health promoters, which can result in limited application of evidence in promotion practice. Consequently, this may negatively impact population health and there is growing consensus that quality improvement and proactive coordination in this area are urgently needed.

## **Conclusion**

Pneumococcal vaccination has become one of the most underused tools to protect older adults, not just from infection, but from a cascade of health consequences that undermine independence, accelerate decline, and reduce quality of life. Beyond immediate illness, pneumococcal disease can trigger a cascade of events, exacerbating chronic conditions, increasing frailty and decreasing independence ultimately cutting lives and the quality of those lives short unnecessarily.

The significant health burden of pneumococcal disease in older adults necessitates prioritizing pneumococcal vaccination as a cost-effective, safe, and evidence-based public health measure. Emerging evidence shows that pneumococcal vaccination does more than prevent infections, it may also reduce the risk of serious chronic conditions like heart disease and stroke. Despite these benefits, older Canadians are not benefitting from vaccines. Vaccinating older adults against pneumococcal disease strengthens population resilience by reducing vulnerability to future outbreaks and chronic diseases. Preventing severe illness in older adults also alleviates pressure on emergency services and primary care systems, freeing important resources for other critical needs.

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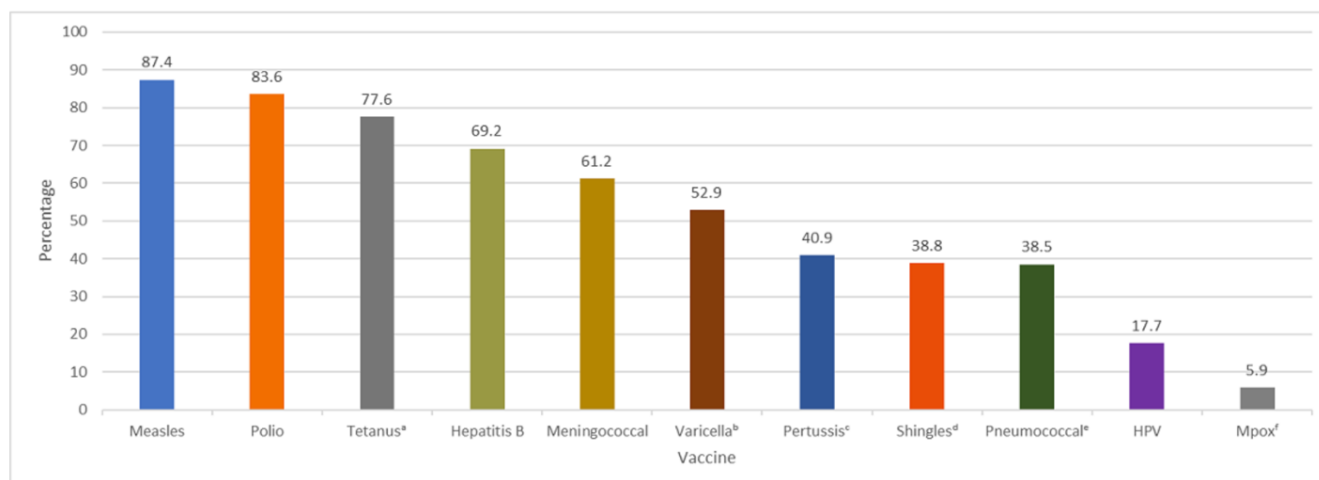
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## Appendix A

### Figure 1. National Routine Immunization Coverage Estimates Among Adults, aNICS, 2023



\* Tetanus vaccine received in the last 10 years

† Among adults younger than 50 years of age

‡ For adults, the pertussis booster is given in combination with tetanus and diphtheria (Tdap) in Canada. Pertussis vaccination refers to a pertussis-containing vaccine received in adulthood

§ Among adults aged 50 years and older

¶ Among adults aged 18 to 64 years with at least 1 chronic health condition and all adults aged 65 and older (50 and older in Nunavut), or all respondents who were current smokers at the time of the survey

‡ Respondents were asked if the vaccine was given as an adult

Source: Public Health Agency of Canada. Adult national immunization coverage survey (aNICS): 2023 results. Available at:

<https://www.canada.ca/en/public-health/services/immunization-vaccines/vaccination-coverage/adult-national-immunization-coverage-survey-2023-results.html#a3>

**Table 1: Summary of NACI Recommendations**

| Population                                                                | Recommendation               |
|---------------------------------------------------------------------------|------------------------------|
| Adults $\geq 65$ years                                                    | PCV20 or PCV21 (one dose)    |
| Adults 18 to 64 years at increased risk* of invasive pneumococcal disease | PCV20 or PCV21 (one dose)    |
| Adults $\geq 18$ years who received a hematopoietic stem cell transplant  | PCV20 and PCV21 (four doses) |

\*Risk factors for IPD include medical conditions, social, behavioural and environmental factors. For more information, see Table 3.

**Table 2: Laboratory Reported Pneumococcal Serotypes Impacting Older Adults  $\geq 65$  Years, 2023**

| Serotype | Prevalence in Adults $\geq 65$ (2023) |
|----------|---------------------------------------|
| 3        | 14.1%                                 |
| 6 A/C    | 2.8%                                  |
| 7F       | 1.8%                                  |
| 8        | 3.7%                                  |
| 10A      | 1.2%                                  |
| 11A      | 3.5%                                  |
| 12F      | 3.5%                                  |
| 15B/C    | 3.1%                                  |

|     |       |
|-----|-------|
| 19A | 4.1%  |
| 22F | 11.7% |
| 33F | 1.1%  |
| 1   | 0.1%  |
| 4   | 5.8%  |
| 5   | 0%    |
| 6B  | 0.1%  |
| 9V  | 4.6%  |
| 14  | 0.1%  |
| 18C | 0.2%  |
| 19F | 2.8%  |
| 23F | 0.2%  |
| 9N  | 5.1%  |
| 15A | 4.4%  |
| 16F | 2.6%  |
| 17F | 0.5%  |
| 20  | 3.2%  |
| 23A | 5.4%  |
| 23B | 2.3%  |
| 24F | 0.1%  |
| 31  | 1.2%  |
| 35B | 2.9%  |

Adapted from the National Advisory Committee on Immunization (NACI). Recommendations on the use of pneumococcal vaccines in adults, including Pneu-C-21. 2024. Available at: <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/national-advisory-committee-immunization-statement-recommendations-use-pneumococcal-vaccines-adults-pneu-c-21.html>

**Table 3: High-Risk Factors for Invasive Pneumococcal Disease (IPD)**

| Chronic Disease/Non-immunocompromising conditions                                                                                                                                                                                                                                                    | Immuno-compromising conditions                                                                                                                                                                                                                         | Social, Behavioural & Environmental Factors                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Chronic kidney disease on dialysis or with renal transplant</li> <li>Chronic liver disease, including chronic hepatitis and hepatic cirrhosis</li> <li>Functional or anatomic asplenia, including sickle cell disease and other hemoglobinopathies</li> </ul> | <ul style="list-style-type: none"> <li>HIV infection</li> <li>Hematopoietic stem cell transplant (HSCT) recipients</li> <li>Congenital immunodeficiencies involving any part of the immune system</li> <li>Immunocompromising conditions or</li> </ul> | <ul style="list-style-type: none"> <li>Individuals who are underhoused</li> <li>Individuals living in communities or settings experiencing sustained high rates of IPD, including individuals who live in long-term care,</li> </ul> |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Chronic neurologic conditions</li> <li>• Chronic cerebrospinal fluid leak (CSF)</li> <li>• Cochlear implants</li> <li>• Chronic heart disease, requiring regular medication and follow-up</li> <li>• Diabetes mellitus, particularly &gt; 50 years of age</li> <li>• Chronic lung disease, particularly chronic obstructive pulmonary disease, emphysema, bronchiectasis, cystic fibrosis, asthma requiring medical care in the preceding 12 months</li> </ul> | <p>immunosuppressive therapy within the last 2 years, including the use of long-term corticosteroids, chemotherapy, radiation therapy, and immunosuppressive biologics</p> <ul style="list-style-type: none"> <li>• Active malignant neoplasms, including leukemia and lymphoma</li> <li>• Candidates and recipients of solid organ transplants</li> </ul> | <p>residential care homes and homes for complex needs</p> <ul style="list-style-type: none"> <li>• Individuals who smoke, particularly people &gt;50 years of age</li> <li>• Individuals who abuse illicit substances (e.g., drugs, alcohol)</li> <li>• Individuals exposed to occupation risks (e.g., welders)</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Adapted from the Public Health Agency of Canada (PHAC). Canadian Immunization Guide. Part 4: Immunizing Agents: Pneumococcal Vaccines. Available at: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-16-pneumococcal-vaccine.html#a3>

**Table 4: Summary of NACI Cost-effectiveness Analysis**

| Population                                                      | Optimal Strategy (ICER for PCV21, \$/QALY) <sup>†</sup> |                                   |                                   |
|-----------------------------------------------------------------|---------------------------------------------------------|-----------------------------------|-----------------------------------|
|                                                                 | No Indirect Effects                                     | Indirect Effects from PCV15       | Indirect Effects from PCV20       |
| All adults ≥65 years of age                                     | <b>PCV21</b> (dominant)                                 | <b>PCV21</b> (dominant)           | <b>PCV21</b> (dominant)           |
| Adults 50–64 years of age who are unhoused                      | <b>PCV20</b> (\$74,501)                                 | <b>PCV21</b> (dominant)           | <b>PCV21</b> (dominant)           |
| Adults 50–64 years of age who are immunocompromised             | <b>PCV20</b> (\$341,785)                                | <b>PCV21</b> (\$13,149)           | <b>PCV21</b> (dominant)           |
| Adults 50–64 years of age with other chronic medical conditions | <b>PCV20</b> (\$1,225,461)                              | <b>PCV20</b> (\$101,313)          | <b>PCV21</b> (\$6,496)            |
| Adults 18–49 years of age who are unhoused                      | <b>PCV20</b> (dominated by PCV20)                       | <b>PCV20</b> (dominated by PCV20) | <b>PCV20</b> (dominated by PCV20) |
| Adults 18–49 years of age who are immunocompromised             | <b>PCV20</b> (dominated by PCV20)                       | <b>PCV20</b> (dominated by PCV20) | <b>PCV20</b> (dominated by PCV20) |
| Adults 18–49 years of age with other chronic medical conditions | <b>PCV20</b> (dominated by PCV20)                       | <b>PCV20</b> (dominated by PCV20) | <b>PCV20</b> (dominated by PCV20) |

ICER=incremental cost-effectiveness ratio; QALY=quality-adjusted life year

\* NACI results are summarized based on the 2022 serotype distribution data using a health system perspective at a cost-effectiveness threshold of \$50,000/QALY.

† PCV21 is considered the optimal strategy when the ICER for PCV21 is dominant (i.e., more effective and cost saving) compared with PCV20 or is less than \$50,000/QALY; PCV20 is considered the optimal strategy when the ICER for PCV21 is dominated by PCV20 or is greater than \$50,000/QALY.

Source: Ontario Immunization Committee. Updated Recommendations for Pneumococcal Immunization in Adults, Including the Use of a 21-valent Pneumococcal Conjugate. July 2025. Available at: [https://www.publichealthontario.ca/-/media/Documents/O/25/oiaac-recommendations-pneumococcal-immunization-adults-pcv21.pdf?rev=44a9fc8f6a3d4b809e424f9c0e43b173&sc\\_lang=en](https://www.publichealthontario.ca/-/media/Documents/O/25/oiaac-recommendations-pneumococcal-immunization-adults-pcv21.pdf?rev=44a9fc8f6a3d4b809e424f9c0e43b173&sc_lang=en)