



# Vaccine Confidence InfoBulletin

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Providing credible and timely information on vaccines to health care providers, public health decision makers and public health enthusiasts to support vaccine confidence. Thank you for being a trusted source of vaccine information for individuals and communities across Canada.

## Trending topics

### Guidance on COVID-19 vaccine booster doses: Initial considerations for 2023

On January 20, 2023, the National Advisory Committee on Immunization (NACI) published initial considerations on 2023 COVID-19 vaccine booster doses to help provinces and territories begin planning 2023 COVID-19 vaccine programs. At this time, NACI is reinforcing existing fall 2022 booster dose recommendations. This means that individuals who were recommended to receive a booster in the fall of 2022 but did not, are recommended to receive a bivalent COVID-19 booster dose now. The bivalent Omicron-containing mRNA COVID-19 vaccines continue to be the preferred products for boosters for all individuals 5 years of age and older as they are expected to broaden the immune response.

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NACI has not issued recommendations for additional booster doses in 2023 at this time. If an individual already received a COVID-19 booster dose in the fall of 2022 or this winter, they are up to date on their COVID-19 vaccinations and are not recommended to receive an additional booster at this time.

There are currently no booster dose recommendations or authorized booster dose products for children 6 months up to 5 years of age. A primary series may be offered to this age group.

NACI will continue to monitor COVID-19 epidemiology and emerging data on vaccine protection, particularly with regards to severe outcomes, and will update booster recommendations as needed. Please check with your province or territory for details about COVID-19 vaccine programs in your region.



For the full statement, including supporting evidence and rationale, please see: [NACI Guidance on COVID-19 vaccine booster doses: Initial considerations for 2023](#).

For a summary of this NACI guidance, please see the [Summary of NACI statement of January 20, 2023](#).

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## Featured article

### Survey finds encouraging gains in vaccination rates against pertussis and influenza during pregnancy over a 2-year period

#### **2021 survey on vaccination during pregnancy**

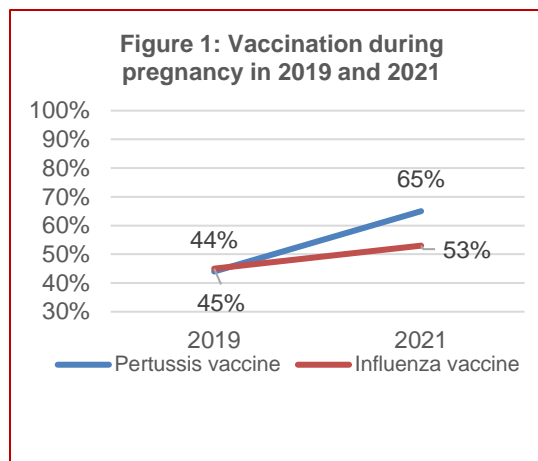
Results from the *2021 Survey on Vaccination during Pregnancy* revealed that vaccination rates for both pertussis and influenza increased from the 2 previous years. The survey asked 3,347 people across Canada who gave birth between September 1, 2020 and March 1, 2021 about the vaccinations they were offered and received during their pregnancy, as well as their knowledge and beliefs about vaccination [1].

The survey found that 65% of those surveyed were vaccinated against pertussis and 53% against influenza during their pregnancy, compared to 44% and 45%, respectively, in the 2019 survey (see Figure 1).

The top reasons for not being vaccinated against pertussis and influenza during pregnancy were:

- lack of awareness that the vaccines were recommended during pregnancy (46% for pertussis; 22% for influenza)
- not wanting to receive the recommended vaccines while pregnant (23% for pertussis; 51% for influenza) [2]

The main reasons for not getting vaccinated against pertussis and influenza during pregnancy were consistent between 2019 and 2021; however, awareness of vaccination recommendations improved over time.



Survey on Vaccination during Pregnancy 2019 and 2021 [3]

The survey also found variations in vaccine uptake across the provinces and territories, as well as disparities in uptake across demographic and socioeconomic groups. Findings of socioeconomic and demographic disparities in this survey are aligned with vaccine uptake literature [3] [4] [5] [6].

Having been recommended the vaccines by a health care provider was a strong predictor of vaccine uptake among those who received routine prenatal care [1]. However, only 69% of those surveyed were advised to receive one or both vaccines. In 2019, 49% reported having been recommended the pertussis vaccine and 61% were recommended influenza vaccines. Although this appears to represent an overall increase since 2019, there are still gains to be made in vaccine recommendations among the pregnant population and prenatal care provider engagement with patients on the topic to boost vaccination [2].

For a more detailed analysis see the [Results of the Survey on Vaccination during Pregnancy 2021](#).

### **Vaccine recommendations during pregnancy**

Frequent healthcare interactions during pregnancy present excellent opportunities to discuss vaccine recommendations, answer questions, and educate patients to build vaccine confidence. It is also an occasion to review the immunization status of the pregnant person, and of those who are expected to have close contact with the newborn [7].

Since 2018, in Canada, NACI has been recommending that immunization with a tetanus toxoid, reduced diphtheria toxoid and reduced acellular pertussis (Tdap) vaccine should be offered in every pregnancy, regardless of previous Tdap history. Ideally, the vaccine should be administered between 27 and 32 weeks of gestation. For the full statement, including supporting evidence and rationale, please see: [NACI Update on immunization in pregnancy with tetanus toxoid, reduced diphtheria toxoid and reduced acellular pertussis \(Tdap\) vaccine](#).

**For information on vaccination during pregnancy, visit:**

- [Immunization in pregnancy and breastfeeding: Canadian Immunization Guide](#)
- [Vaccine Confidence InfoBulletin May 2022 Science Spotlight on vaccination during pregnancy](#)

At the time of the previous *Survey on Vaccination during Pregnancy (2019)*, not all provinces and territories had adopted the NACI recommendations on Tdap vaccination during pregnancy as part of their publicly funded vaccination programs. This likely explains why vaccine uptake for pertussis vaccination during pregnancy was much lower in 2019 (44%) than it was in 2021 (65%), as the recommendation became better known and when additional provinces and territories added the vaccine to their programs.

For every influenza season since 2007-2008, NACI has also been recommending that all pregnant people should be offered an inactivated influenza vaccine at any stage of their pregnancy, during each pregnancy [8]. This should preferably be done at the onset of the seasonal influenza season to optimize protection conferred by the vaccine [8].

Currently, all provinces and territories offer the pertussis and influenza vaccine at no cost during pregnancy [9] [10] [11].

Vaccination against pertussis and influenza during pregnancy are important steps to supporting a healthy pregnancy, as both provide protection against severe disease outcomes for both the pregnant individual and their infants [8] [9]. While the 2021 *Survey on Vaccination during Pregnancy* findings indicate significant progress in vaccine uptake over the past 2 years, it is important for health care providers to continue to work to address the remaining gaps in pertussis and influenza vaccination during pregnancy by clearly communicating vaccine recommendations and offering opportunities to discuss vaccination throughout prenatal care.



For more information on how to build vaccine confidence before, during, and after pregnancy, and evidence-based strategies to have effective conversations with families, see the PHAC webinar [Building COVID-19 vaccine confidence before, during and after pregnancy](#).

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## In the clinic

Providing current recommendations, resources and vaccination best practices for immunizers.

### Updates to the Brighton Collaboration case definition for anaphylaxis

Anaphylaxis is a serious, potentially life-threatening systemic hypersensitivity reaction [12] [13]. Anaphylaxis to vaccines occurs with an estimated frequency of 1.3 episodes per million doses of vaccine administered [12]. Identification and diagnosis of anaphylaxis following immunization is important both to allow rapid treatment, and ensure accurate adverse event reporting and vaccine safety surveillance.

Canada uses the [Brighton Collaboration](#) case definitions in adverse event following immunization (AEFI) reporting. Brighton Collaboration is an international voluntary group whose goal is to facilitate the development, evaluation, and dissemination of high quality information about the safety of human vaccines.

In November 2022, Brighton Collaboration updated its 2007 case definition of anaphylaxis. This was due to concerns regarding the case definition's ability to distinguish between anaphylaxis and non-allergic events, and between anaphylaxis and allergic but non-anaphylactic events following COVID-19 immunization.

Brighton Collaboration's anaphylaxis working group focused the updated definition on observable objective signs rather than subjective symptoms (such as reported breathing difficulties and hoarse voice) with an aim of improving the specificity of the definition [13]. The updated case definition and algorithm provides:

- more specific definitions to both the major and minor criterion
- overall exclusion of single organ system involvement in the case definition for anaphylaxis in the absence of an accompanying increase in mast cell tryptase
- updates to the criteria for various levels of diagnostic certainty [13]

Details regarding the complete case definitions including the body systems and major and/or minor signs or symptoms to consider are available in the [2022 Anaphylaxis: Revision of the Brighton Collaboration case definition](#). The updated definition now better aligns with other international definitions of anaphylaxis used by the allergy specialist community including the World Allergy Organization's definition [13].

Incomplete documentation of signs and symptoms in AEFI reports continue to pose a major barrier to the accurate application of case definitions, regardless of the definition used. Resources and training should continue to support health care providers' proficiency in accurately recording signs and symptoms in AEFI reports to help differentiate anaphylaxis from non-anaphylactic events and accurately estimate rates of anaphylaxis events following vaccination.

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## Community spotlight

Putting the spotlight on innovative projects and best practices from communities across Canada.

### **Atira Women's Resource Society - Vaccine & Immunization Peer Training and Best Practices for Social Housing**

The Atira Women's Resource Society, a not-for-profit organization committed to ending violence against women, is receiving funding from the PHAC [Immunization Partnership Fund \(IPF\)](#) for its Vaccine & Immunization Peer Training and Best Practices for Social Housing program. This program provides non-judgmental and community-based vaccine education to women who have experienced violence, abuse, or marginalization. It adopts a peer-led approach to its design, implementation, and evaluation practices.



As a part of this program, Atira has collaborated with Enterprising Women Making Art (EWMA) to start a [campaign to enhance vaccine confidence through arts and culture](#). Art therapy sessions encourage women to explore the effect of the pandemic on their personal, mental, and emotional well-being, as well as its impact on their vaccination decisions.

Atira, in partnership with the British Columbia Association of Community Health Centres (BCACHC), has developed several informative vaccine confidence resources to help share the experiences, knowledge, and lessons learned of peers who have already gone through the training. These materials and resources include motivational videos by peer support workers, activity sheets to support vaccine conversations, educational brochures, and a best practice document for community organizations on addressing vaccine hesitancy.

Check out [Atira's online training for peers and community workers](#) to learn more about how to build trust and connection, and address vaccine hesitancy.

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## PHAC Vaccine "ConfidenceCast"

ConfidenceCast is a public health podcast brought to you by PHAC in association with the Canadian Vaccination Evidence Resource and Exchange Centre (CANVax). This podcast for health care providers and public health enthusiasts brings the experts to your ears to discuss important issues related to vaccine confidence in Canada, such as behavioral science, vaccine science, immunology, routine vaccination, and other emerging issues.



## Episode 15 – Waning immunity, variants and COVID-19 boosters ([canvax.ca](#), [Spotify](#), or [iTunes](#))



**Dr. Samriti Birdi** explains how vaccine-induced immunity to SARS-CoV-2 has changed since first doses were administered, how variants are impacting vaccine effectiveness, and the role of bivalent vaccines in providing improved protection against the virus.



For more podcast episodes discussing vaccine confidence in Canada check out the CANVax Emerging Topics podcast on [canvax.ca](#), [Spotify](#) or [iTunes](#).

Emerging Topics is a public health podcast that engages experts from across Canada to better understand emerging issues in immunization and the initiatives that aim to combat them to improve vaccine acceptance and uptake.

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## PHAC webinars and webcasts for health care providers

PHAC, in collaboration with CANVax and the National Collaborating Centre for Infectious Diseases (NCCID), offers expert-led webinars and webcasts focused on providing health care providers with clinical guidance and information related to key vaccine topics.

**Webcasts** are video resources.

**Webinars** are live events, with an audience and question & answer period. These live events are recorded and later posted for viewing.

### Webinar and webcast watch list

[Webcast – Implementing the CARD system to support vaccination in community pharmacies \(30 mins\)](#)



**James Morrison** provides health care professionals with strategies and approaches for implementing CARD in their practice by sharing practical examples of how CARD has been implemented in pharmacies.

A companion webcast titled [Needle fear, pain and vaccines: Introduction to the CARD system as a framework for vaccination delivery](#) was recorded in the Spring of 2022. We recommend viewing this webcast first to learn about the contributors to stress-related reactions during vaccination and evidence-based strategies to improve the vaccine experience for people receiving vaccines and those who support them.

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## Contact Vaccine Confidence

[Subscribe](#) to receive the PHAC Vaccine Confidence InfoBulletin directly in your inbox. To explore past issues, see [archived issues on canvax.ca](#).

Have questions or feedback to share? Email us: [vaccination@phac-aspc.gc.ca](mailto:vaccination@phac-aspc.gc.ca)

Please note that any medical questions should be directed to your local health care provider and any urgent medical questions should be directed to 911 or your local emergency department.



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## Annex

### References

- [1] Statistics Canada, "Recommended vaccines received during pregnancy, 2021," 23 12 2022. [Online]. Available: <https://www150.statcan.gc.ca/n1/daily-quotidien/221213/dq221213a-eng.htm>. [Accessed 09 01 2023].
- [2] Government of Canada, "Results of the Survey on Vaccination during Pregnancy 2021," 13 12 2022. [Online]. Available: <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/survey-vaccination-during-pregnancy-2021.html>. [Accessed 04 01 2023].
- [3] V. Vukovic and al., "Identifying people at risk for influenza with low vaccine uptake based on deprivation status: a systematic review," *European Journal of Public Health*, vol. 30, no. 1, pp. 132-141, 2019.
- [4] E. Robinson, A. Jones, M. Daly and I. Lesser, "International estimates of intended uptake and refusal of COVID-19 vaccines: A rapid systematic review and meta-analysis of large nationally representative samples," *Vaccine*, vol. 39, no. 15, pp. 2024-2034, 2021.
- [5] A. Eiden, J. Barratt and M. K. Nyaku, "Drivers of and barriers to routine adult vaccination: A systematic literature review," *Human Vaccines & Immunotherapeutics*, vol. 18, no. 6, p. 13, 2022.
- [6] J. Kaufman and al., "Parent-level barriers to uptake of childhood vaccination: A global overview of systematic reviews," *BMJ Global Health*, vol. 6, no. 9, pp. 1-11, 2021.
- [7] Government of Canada, "Immunization in pregnancy and breastfeeding: Canadian Immunization Guide," 04 2018. [Online]. Available: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-3-vaccination-specific-populations/page-4-immunization-pregnancy-breastfeeding.html>. [Accessed 04 01 2023].
- [8] National Advisory Committee on Immunization, "Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2022–2023," 06 06 2022. [Online]. Available: <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2022-2023.html>. [Accessed 04 12 2022].
- [9] D. Bhagat, M. Saboui, G. Huang, F. Reyes Domingo, S. G. Squires, M. I. Salvadori and Y. A. Li, "Pertussis epidemiology in Canada, 2005–2019," *CCDR*, vol. 49, no. 1, pp. 21-8, 01 2023.
- [10] Government of Canada, "Public Funding for Influenza Vaccination by Province/Territory (as of October 2022)," 11 10 2022. [Online]. Available: <https://www.canada.ca/en/public-health/services/provincial-territorial-immunization-information/public-funding-influenza-vaccination-province-territory.html>. [Accessed 16 01 2023].
- [11] Government of Canada, "Provincial and Territorial Routine Vaccination Programs for Healthy, Previously Immunized Adults," 14 11 2022. [Online]. Available: <https://www.canada.ca/en/public-health/services/provincial-territorial-immunization-information/routine-vaccination-healthy-previously-immunized-adult.html>. [Accessed 16 01 2022].
- [12] Canadian Immunization Guide, "Anaphylaxis and other Acute Reactions following Vaccination: Canadian Immunization Guide," Public Health Agency of Canada, 13 12 2021. [Online]. Available: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-2-vaccine-safety/page-4-early-vaccine-reactions-including-anaphylaxis.html>. [Accessed 06 12 2022].
- [13] M. Gold and et al., "Anaphylaxis: Revision of the Brighton collaboration case definition," *Vaccine*, pp. 1-11, 2022.