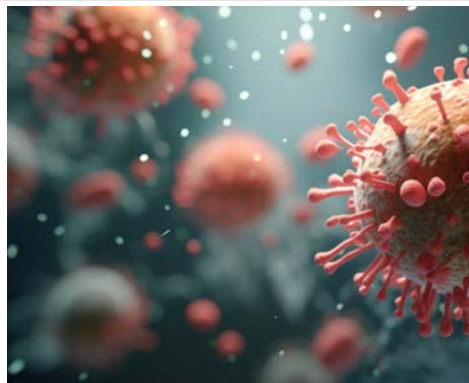


# SEASONAL INFLUENZA VACCINATION COVERAGE IN CANADA, 2022–2023



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To obtain additional information, please contact:

Public Health Agency of Canada  
Address Locator 0900C2  
Ottawa, ON K1A 0K9  
Tel.: 613-957-2991  
Toll free: 1-866-225-0709  
Fax: 613-941-5366  
TTY: 1-800-465-7735  
E-mail: [publications-publications@hc-sc.gc.ca](mailto:publications-publications@hc-sc.gc.ca)

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# SEASONAL INFLUENZA VACCINATION COVERAGE IN CANADA, 2022–2023



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## ABOUT

This report summarizes the results from the 2022–2023 Seasonal Influenza Vaccination Coverage Survey. The survey is conducted annually to collect information on influenza vaccine uptake among adults in Canada. Respondents aged 18 years and older were questioned about their influenza vaccine uptake for the 2022–2023 season, as well as their reasons for vaccination and non-vaccination. Additionally, their knowledge, attitudes, and beliefs (KAB) regarding the influenza vaccine and vaccination in general were assessed, and selected demographic information was collected. To capture people's attitudes and beliefs toward COVID-19 vaccination, as well as their intent or acceptance of co-administration of the flu and COVID-19 vaccines, a section of COVID-19 vaccine-related questions was included in the survey. Data collection occurred between January 5 and February 20, 2023.

## KEY FINDINGS

### Influenza vaccine

- Influenza vaccination coverage increased from 39% in 2021–2022 to 43% in 2022–2023, bringing it back to the pre-pandemic level.
- Influenza vaccination coverage was higher in females (47%) than in males (39%).
- Only 43% of the adults aged 18–64 years with chronic medical conditions were vaccinated.
- Vaccination coverage among seniors (74%) is closer to the coverage goal of 80% but had not improved significantly in recent years.
- The most common reason for getting the flu vaccine was to prevent infection (47%), whereas the most common reason for not getting the flu vaccine was not getting around to it (21%).
- Most adults received their vaccine in October (38%) or November (36%).
- An increased number of adults received their flu vaccine in a pharmacy (52%) compared to the pre-pandemic seasons, highlighting the importance of this setting as point of vaccination.
- Despite most people agreeing that the flu vaccine is safe, 40% of adults mistakenly believed that they could get the flu from the flu vaccine.

## COVID-19 vaccines

- About one-third of the adults vaccinated against flu (30%) had received a COVID-19 vaccine at the same time.
- A majority of adults (66%) stated that getting COVID-19 and flu vaccines at the same time would not affect their likelihood of getting the flu vaccine.
- In total, 68% of adults had received at least one additional dose of a COVID-19 vaccine, while 16% had been reluctant to get one.
- The most common reason for having been reluctant to receive an additional dose was concerns about the side effects of having an additional dose.
- The most important reason for getting a COVID-19 additional dose despite the initial reluctance was the perception that the benefits are more important than risks.

## INTRODUCTION

Influenza, commonly known as the flu, is a contagious respiratory illness caused by influenza viruses that can infect the nose, throat, and lungs.<sup>1</sup> About 5 to 10% of adults and 20 to 30% of children are infected with influenza each year.<sup>2,3</sup> The flu viruses are constantly changing and can cause a wide spectrum of illness ranging from asymptomatic to severe, complicated illness.<sup>1</sup> Moreover, influenza is ranked among the top 10 leading causes of death in Canada with an average of 12,200 hospitalizations and 3,500 deaths per year according to data from before the COVID-19 pandemic.<sup>2</sup> Annual influenza vaccination is the most effective way to help prevent infection and to reduce the morbidity and mortality associated with influenza. The flu vaccine is updated every year to target the specific flu virus strains expected to circulate during the upcoming influenza season. Even if the strains have not changed, it is still necessary to get vaccinated annually as immunity wanes within a year.<sup>1,2</sup> For the 2022–2023 influenza season, it is especially important for people to get the influenza vaccine to not only reduce the morbidity and mortality associated with influenza, but also to minimize any further pressure on the health care system during the respiratory virus season, particularly in the context of ongoing COVID-19 activity.<sup>1</sup> The optimal time to receive the influenza vaccine in Canada is between October and December, before the virus begins spreading in the community.<sup>2,4</sup>

The [National Advisory Committee on Immunization \(NACI\)](#) recommends that all individuals aged 6 months and older get the annual seasonal influenza vaccine, especially for populations at increased risk for influenza-related complications or hospitalization including:

- Pregnant people
- Children 6 months to less than 5 years of age
- Adults and children with certain chronic medical conditions (CMC), such as heart conditions, diabetes, cancer or immune disorder, anemia, renal diseases and morbid obesity
- Seniors 65 years and older
- Indigenous people.<sup>4</sup>



Measuring vaccination coverage is crucial to track Canada's progress towards reaching its vaccination coverage goals by 2025, and to help identify under- and un-immunized populations. Identification of these populations can help inform and improve vaccination promotion efforts to increase vaccine uptake in specific populations. The national vaccination coverage goals for the seasonal influenza vaccine (one dose per season) include:

- Achieving 80% vaccination coverage among adults 65 years of age and older;
- Achieving 80% vaccination coverage among adults 18–64 years of age with CMC.<sup>5</sup>

In addition to measuring influenza vaccination coverage in adults, this report also describes knowledge, attitudes and beliefs (KAB) regarding the flu vaccine in particular, and vaccines in general, along with the reasons for non-vaccination. Understanding positive or negative perceptions regarding vaccination can help inform vaccination promotion efforts in order to better encourage vaccine uptake within the Canadian population.

With the ongoing circulation of the COVID-19, the emerging threat of concurrent influenza and COVID-19 epidemics is a major concern for public health officials and clinicians. To address this, the present report includes a section on additional doses of COVID-19 vaccine, co-administration of the COVID-19 and flu vaccines, and beliefs about the COVID-19 vaccination. Understanding attitudes and intentions regarding COVID-19 additional dose helps to inform successful COVID-19 booster campaigns.

## METHODOLOGY

### Survey sampling

The survey was conducted by Léger Marketing using a stratified regional sampling approach. Survey respondents from each province and territory were selected through random digit dialing of landlines and known cellphone-only household numbers. A comprehensive description of the quantitative methodology can be found elsewhere.<sup>6</sup> Sample weights were calculated by Léger Marketing based on age, gender, region, language (mother tongue), education level, and whether the respondent lives in a cellphone-only household.

### Data collection

Data collection took place between January 5 and February 20, 2023, and interviews were conducted in English and French. A computer-assisted telephone interviewing (CATI) system was used to conduct the interviews. A total of 3,558 adults were surveyed regarding their influenza vaccination status, reasons for vaccination or non-vaccination, KAB regarding flu vaccine and vaccination in general, their uptake and intent to receive additional COVID-19 vaccine doses, and select demographic information. Respondents who were unsure of their vaccination status for a specific vaccine were excluded from subsequent analyses related to that vaccine.

## Statistical analysis

Influenza vaccination coverage was estimated by calculating the weighted proportion of survey respondents who reported receiving the influenza vaccine in the 2022–2023 season, among those who provided a definitive response (i.e., responded “yes” or “no” to the influenza vaccination status question). Simple weighted proportions and 95% confidence intervals were calculated for categorical variables. Chi-squared tests with a p-value <0.05 were used to determine significant differences in vaccination coverage between genders within each age or risk group.

The precision of estimates was assessed using the coefficient of variation. Estimates with a coefficient of variation ranging from 16% to 33%, or greater than 33% were associated with higher sampling error and should be interpreted with caution. Estimates based on a count less than 10 were considered unreliable and not reported.

## RESULTS

The overall response rate calculated using the Marketing Research Intelligence Association’s standard calculation method for the response rate of a telephone survey was 10%.<sup>6</sup>

All the proportions (%) reported hereafter are weighted, whereas the sample sizes (n) are unweighted.

### Seasonal influenza vaccine

#### Influenza vaccination coverage

In the 2022–2023 flu season, 43% of adults aged 18 years and older received the influenza vaccine. The overall coverage was significantly higher in females (47%) than in males (39%,  $p < 0.001$ ). Only 43% of the adults aged 18–64 years with CMC received a flu vaccine, falling significantly short of the national influenza vaccination coverage goal for those at high risk of influenza-related complications or hospitalization (80%). The coverage among seniors aged 65 years and older were much higher (74%), which brings them closer to the target coverage goal. The vaccination rate was lowest among adults 18–64 years of age without any CMC (31%). A significant difference in influenza vaccine uptake between females and males was observed among those 18–64 years of age without CMC. (Table 1.1).

**TABLE 1.1:** Seasonal influenza vaccination coverage, by gender<sup>a</sup> and age group<sup>b</sup>

AGE GROUP (YEARS)	ALL		MALE		FEMALE		p
	n	VACCINATION COVERAGE, % (95% CI)	n	VACCINATION COVERAGE, % (95% CI)	n	VACCINATION COVERAGE, % (95% CI)	
All adults ≥18	3535 <sup>c</sup>	43.5 (41.6–45.3)	1526	39.3 (36.7–42.0)	1983	47.2 (44.7–49.8)	<0.001 <sup>d</sup>
18–64	2311	34.1 (32.0–36.2)	1065	30.4 (27.4–33.4)	1246	37.7 (34.7–40.7)	<0.001 <sup>d</sup>
18–64 with CMC	583	43.1 (38.6–47.6)	232	41.9 (35.0–48.9)	351	43.9 (37.9–49.8)	0.680
18–64 without CMC	1715	31.0 (28.6–33.4)	821	27.0 (23.8–30.3)	894	35.2 (31.7–38.7)	<0.001 <sup>d</sup>
≥65	1198	73.7 (71.0–76.5)	461	70.9 (66.4–75.4)	737	76.1 (72.8–79.4)	0.067

**DEFINITIONS:**

**n:** Number of respondents (unweighted).

**CI:** Confidence interval.

**p:** p-value

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**FOOTNOTES:**

<sup>a</sup> 14 people did not disclose their gender and 13 people did not identify themselves as male nor female. They were excluded from the stratified analysis.

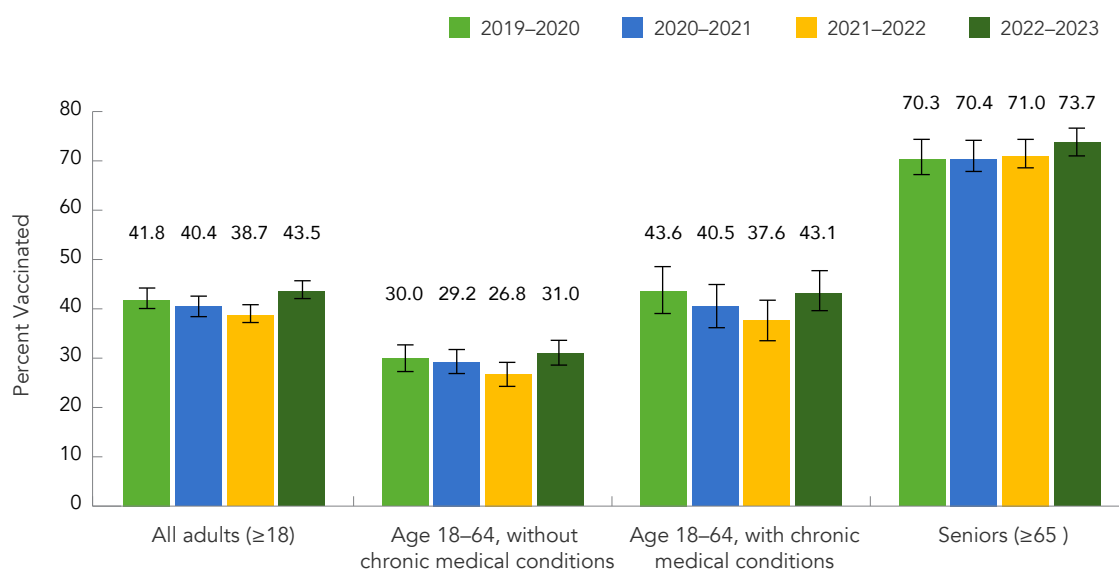
<sup>b</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

<sup>c</sup> 23 people did not recall whether they had received the influenza vaccine and were excluded from coverage estimates.

<sup>d</sup> Significant difference between males and females ( $p < 0.05$ ).

In all adults, influenza vaccination coverage increased from 39% in 2021–2022 to 43% in 2022–2023 and is now back to the pre-pandemic level. (Figure 1.1).<sup>7,8,9</sup>

Among high-risk groups, vaccination coverage for adults 18–64 years of age with CMC and seniors 65 years of age and older remained steady over the past seasons. Consistent with the previous cycles of the survey, the proportion of vaccinated individuals was highest among seniors aged 65 years and older (74%), lower among those 18–64 years of age with a CMC (43%), and lowest in those 18–64 years of age without CMC (31%). (Figure 1.1).

**FIGURE 1.1:** Seasonal influenza vaccination coverage, by risk group and influenza season

### Month and place of vaccination

Among respondents who recalled the month they received their influenza vaccination (n=1,811), the majority received the vaccine in October (38%) or November (36%) 2022 (Table 2.1). In general, optimal protection is achieved by two weeks following vaccination.<sup>2</sup> Therefore, it is best to be vaccinated before the influenza season begins to allow time for the development of antibodies against the influenza viruses before they begin spreading in the community. September and October are generally good times to be vaccinated against flu.<sup>2,4</sup> However, vaccination is still recommended until November or later because flu most commonly peaks in February, and significant activity can continue into May.<sup>2</sup>

**TABLE 2.1:** Month of influenza vaccination among vaccinated individuals

MONTH	PROPORTION VACCINATED IN THIS MONTH, % (95% CI)
September 2022	8.2 (6.7–9.6)
October 2022	38.5 (35.9–41.1)
November 2022	35.9 (33.3–38.5)
December 2022	15.0 (13.0–16.9)
January 2023	2.5 (1.6–3.3)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 1,811 respondents were vaccinated, and 1,717 of them (94.8%) recalled the month of influenza vaccination.

Consistent with previous seasons, the most commonly reported place of vaccination among adults was pharmacies (52%). 17% of adults got vaccinated at their doctor's office and 12% went to temporary vaccine clinics. (Table 2.2).

**TABLE 2.2:** Place of influenza vaccination among vaccinated individuals

PLACE OF VACCINATION	PROPORTION VACCINATED BY PLACE, % (95% CI)
Pharmacy	52.3 (49.7–55.0)
Doctor's office	17.4 (15.4–19.4)
Temporary vaccine clinic	12.1 (10.4–13.8)
CLSC/Community health centre	5.2 (3.9–6.4)
Workplace	4.6 (3.4–5.8)
Hospital	2.8 (1.9–3.7) <sup>a</sup>
Retirement residence	0.9 (0.5–1.3) <sup>a</sup>
Other	4.6 (3.5–5.7)

**DEFINITIONS:**

**CI:** Confidence interval.

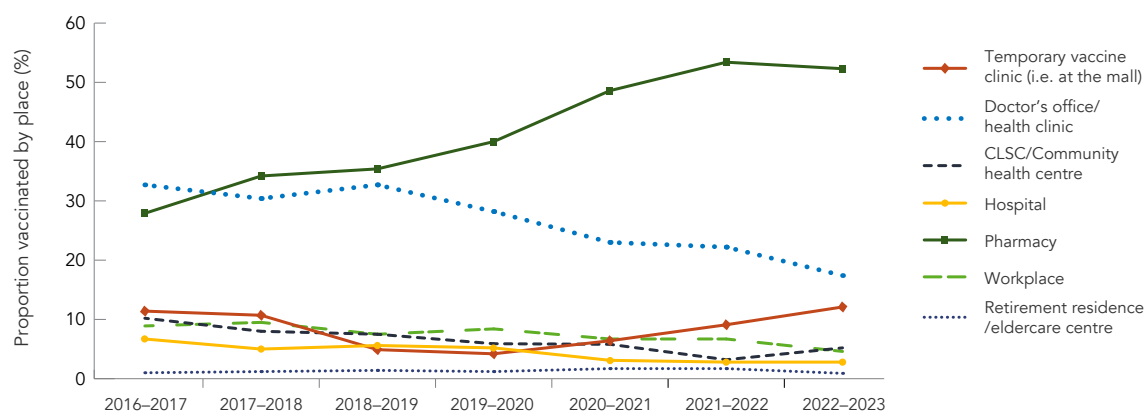
**NOTE:** A total of 1,811 respondents were vaccinated, and 1,807 of them (99.8%) recalled their place of influenza vaccination.

**FOOTNOTES:**

<sup>a</sup> Coefficient of variation between 16% and 33%; therefore, estimates should be interpreted with caution due to a higher level of error.

When analyzing the place of vaccination over the past flu seasons between 2016–2017 and 2022–2023, an increasing number of people reported receiving their flu vaccine in pharmacies. In 2016–2017, the most common place of vaccination was doctor's office (33%), while only 28% were vaccinated in pharmacies. In contrast, in 2022–2023, the proportion of individuals vaccinated in pharmacies nearly doubled, reaching 52%. (Figure 2.1). However, it should be kept in mind that the respondents were asked about their place of vaccination, not the professional who vaccinated them. Therefore, some of those vaccinated "in a pharmacy" may in fact have been vaccinated by a nurse in the premises of a pharmacy.

This rise can be attributed to the growing number of jurisdictions that allow pharmacists to administer the influenza vaccine.<sup>10</sup> Influenza vaccines were primarily administered by nurses and physicians in Canada, but several provinces have implemented policies permitting pharmacists to administer influenza vaccines in community pharmacies aiming to improve accessibility to flu vaccination. Community pharmacists who have been authorized to administer influenza vaccines could help to overcome issues with accessibility given their ubiquitous distribution, extended working hours, walk-in policies and availability to people without a primary care provider.<sup>11</sup> Studies have demonstrated that influenza vaccine uptake has modestly increased in Canadian jurisdictions where pharmacists were allowed to administer influenza vaccines.<sup>10,12</sup>

**FIGURE 2.1:** Place of influenza vaccination among vaccinated individuals by influenza season

### Reasons for vaccination

Among adults aged 18 years and older who provided a reason for receiving the vaccine (n=1,798), 47% were vaccinated because they wanted to prevent infection or avoid getting sick. Among adults aged 18–64 years with CMC, being at higher risk because of their health condition was also a commonly reported reason for receiving the vaccine (26%). Among seniors aged 65 years and older, the most commonly reported reasons for receiving the influenza vaccine were receiving it yearly without specific reasons (50%) and being at risk because of age (19%). This suggested that these vaccinated individuals have adopted yearly influenza vaccination as a preventive health practice, potentially recognizing their increased risk for influenza-related complications.<sup>13</sup> (Table 3.1).

**TABLE 3.1:** Top three reasons for influenza vaccination among vaccinated individuals, by risk group<sup>a</sup>

REASON	% (95% CI)
<b>All adults ≥18 (n=1,798)</b>	
1. To prevent infection/don't want to get sick	46.9 (44.3–49.5)
2. Receive it yearly (no specific reason)	40.4 (37.8–42.9)
3. To prevent the spread of flu in general	16.4 (14.4–18.3)
<b>18–64 without CMC (n=617)</b>	
1. To prevent infection/don't want to get sick	51.5 (47.1–56.0)
2. Receive it yearly (no specific reason)	30.2 (26.1–34.2)
3. To prevent the spread of flu in general	17.1 (13.8–20.4)
<b>18–64 with CMC (n=278)</b>	
1. To prevent infection/don't want to get sick	44.5 (37.9–51.0)
2. Receive it yearly (no specific reason)	42.3 (35.9–48.8)
3. At risk because of health condition	26.1 (20.5–31.7)
<b>≥65 (n=898)</b>	
1. Receive it yearly (no specific reason)	49.9 (46.4–53.5)
2. To prevent infection/don't want to get sick	43.6 (40.1–47.1)
3. At risk because of age	18.8 (16.0–21.6)

**DEFINITIONS:**

**n:** Number of respondents (unweighted).

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 1,811 respondents were vaccinated, and 1,798 of them (99.3%) provided reasons for vaccination.

Respondents could provide more than one reason.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

## Reasons for non-vaccination

Among unvaccinated individuals (n=1,724) who provided their main reason for not getting the vaccine (n=1,701) this year, the most common answer was that they did not get around to it (e.g. too busy, lack of time) (21%). The most commonly provided reasons for non-vaccination did not vary significantly among those aged 18 to 64 years old with or without CMC.

Among seniors, the most common reason for not getting vaccinated was that they have never received a flu vaccine before (21%). Concerns about the safety or side effects of the vaccine were also commonly reported among seniors (15%). Additionally, 17% of younger adults with CMC and 15% of seniors did not receive the vaccine because they did not believe they needed it. The unawareness of being at high risk of flu-related complications could be one of the important factors contributing to low flu vaccination coverage among these groups.

**TABLE 4.1:** Top three reasons for influenza non-vaccination among unvaccinated individuals, by risk group<sup>a</sup>

REASON	% (95% CI)
<b>All adults ≥18 (n=1,701)</b>	
1. I did not get around to it (e.g. too busy, lack of time)	20.9 (18.6–23.1)
2. I did not need flu vaccine	20.1 (17.9–22.4)
3. I have never gotten a flu vaccine before	16.5 (14.5–18.5)
<b>18–64 without CMC (n=1,091)</b>	
1. I did not get around to it (e.g. too busy, lack of time)	22.4 (19.6–25.2)
2. I did not need flu vaccine	21.9 (19.1–24.7)
3. I have never gotten a flu vaccine before	16.1 (13.7–18.6)
<b>18–64 with CMC (n=309)</b>	
1. I did not get around to it (e.g. too busy, lack of time)	20.2 (15.1–25.4)
2. I did not need flu vaccine	17.3 (12.5–22.2)
3. I have never gotten a flu vaccine before	15.6 (10.9–20.4)
<b>≥65 years (n=293)</b>	
1. I have never gotten a flu vaccine before	20.6 (15.6–25.6)
2. I did not need flu vaccine	15.0 (10.5–19.4)
3. I have concerns about the safety of the flu vaccine, and/or its side effects	14.7 (10.3–19.1)

**DEFINITIONS:**

**n:** Number of respondents (unweighted).

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 1,724 respondents were unvaccinated, and 1,701 of them (98.7%) provided reasons for non-vaccination.

Respondents could only select one reason.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.



## Barriers to get the influenza vaccine

Overall, only 15% of adults stated that they encountered difficulties in scheduling an appointment to receive the flu vaccine this year. The most common difficulty reported was limited appointment availability (e.g., no flu vaccine available, hard to book an appointment), which affected 6% of the adults. The second most common barrier was the vaccine not being offered at a convenient or nearby location (4%). (Table 5.1).

**TABLE 5.1:** Difficulties encountered in scheduling an appointment for getting the influenza vaccine

RESPONSE	% (95% CI)
Limited appointment availability (e.g. no flu vaccine available, difficult to book an appointment)	5.8 (4.5–7.1)
The vaccine was not offered at my usual/convenient/close location	4.5 (3.3–5.6)
I could not receive it at the same time or location as my COVID-19 vaccination	3.6 (2.6–4.5)
Concern about being exposed to COVID-19	3.6 (2.6–4.6)
Lack of walk-in options	4.0 (2.8–5.1)
Other reasons	3.8 (2.8–4.8)
I didn't encounter any difficulties in scheduling an appointment	84.7 (82.7–86.6)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 1,811 respondents have taken action to get vaccinated this year, and 1,746 of them (96.4%) provided a valid answer to the question.

### Impact of having the flu on getting the influenza vaccine

During the data collection period between January and February 2023, the majority of adults in Canada stated that they did not have the flu this season (78%). Only 12% reported having the flu, while 9% had some flu-like symptoms but were unsure if it was flu or something else. (Table 6.1).

**TABLE 6.1:** Proportion of adults stated having the flu this season

RESPONSE	% (95% CI)
Yes, I had flu infection	12.3 (11.0–13.6)
I had something, but I'm not sure if it was the flu, or something else	9.5 (8.3–10.7)
No, I did not have the flu	78.2 (76.6–79.9)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 3,544 respondents provided a valid answer to this question.

Among those who had the flu ( $n=394$ ), 20% had a severe case such as hospitalization or pneumonia, 50% had a moderate case, including sinus or ear infections, and 30% had a mild case with sudden onset of fever, sore throat, cough, muscle pain, etc. The majority (66%) stated that having the flu this season would not affect their likelihood of getting the flu vaccine next year. About one-third (30%) were more likely to get the flu vaccine next year, while 5% were less likely.

When examining the likelihood of getting the flu vaccine based on the severity of the flu case, 41% of those who reported having a severe case were more likely to get the flu vaccine next year, whereas only 24% of those who had a mild case were more likely to get vaccinated next year. (Table 6.2).

**TABLE 6.2:** Likelihood of receiving a flu vaccine by severity of the flu case

SEVERITY OF THE FLU CASE	LIKELIHOOD OF GETTING THE FLU VACCINE	% (95% CI)
Severe case	It does not affect my likelihood of getting the flu vaccine next year	52.6 (39.3–65.8)
	I am more likely to get the flu vaccine next year	41.4 (28.5–54.4)
	I am less likely to get the flu vaccine next year	6.0 (0.0–14.0) <sup>b</sup>
Moderate case	It does not affect my likelihood of getting the flu vaccine next year	67.6 (59.8–75.4)
	I am more likely to get the flu vaccine next year	27.9 (20.4–35.5)
	I am less likely to get the flu vaccine next year	4.5 (1.3–7.6) <sup>b</sup>
Mild case	It does not affect my likelihood of getting the flu vaccine next year	71.0 (61.4–80.6)
	I am more likely to get the flu vaccine next year	23.8 (14.9–32.7) <sup>a</sup>
	I am less likely to get the flu vaccine next year	5.2 (0.3–10.0) <sup>b</sup>

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 383 respondents provided a valid answer to the questions.

**FOOTNOTES:**

<sup>a</sup> Coefficient of variation between 16% and 33%; therefore, estimates should be interpreted with caution due to a higher level of error.

<sup>b</sup> Coefficient of variation greater than 33%; therefore, estimates should be interpreted with caution due to a higher level of error.

### Impact of the healthcare providers on getting the influenza vaccine

Overall, 84% of the adults (n=3,077) reported having a regular family doctor, general practitioner, nurse or pharmacist. Among them, 69% had visited their healthcare providers (HCP) at least once since September 1, 2022, around the beginning of the flu season. Less than half of the adults (44%) stated that their HCP had recommended they get the flu vaccine. This proportion is higher among younger adults with CMC (49%) and seniors (52%) compared to younger adults without CMC (36%). (Table 7.1).

**TABLE 7.1:** Proportion of healthcare providers who recommended the flu vaccine, by risk group<sup>a</sup>

RISK GROUP	% (95% CI)
All adults ≥18 years	43.7 (41.3–46.1)
18–64 years without CMC	36.3 (32.6–40.0)
18–64 years with CMC	48.5 (43.0–54.0)
65 years and older	52.2 (48.5–56.0)

**DEFINITIONS:**

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders

**NOTE:** A total of 2,162 respondents who have visited their healthcare providers (HCP) since September 1, 2022, and 2,101 of them (97.2%) provided valid answers for the questions.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

In addition, the flu vaccination coverage is significantly higher among individuals who were recommended to get the flu vaccine (67%), compared to 40% among those who did not receive such a recommendation. Significant differences in coverage between individuals who received recommendation from their HCP and those who did not were observed in each risk group. (Table 7.2).

**TABLE 7.2:** Influenza vaccine uptake by healthcare providers' recommendation on getting the flu vaccine, by risk group<sup>a</sup>

HCP RECOMMENDED THE FLU VACCINE DURING THE LAST VISIT	INFLUENZA VACCINATION	
	VACCINATED % (95% CI)	UNVACCINATED % (95% CI)
<b>All adults ≥18 years (n=2,101)</b>		
Yes	67.1 (63.4–70.7)	32.9 (29.3–36.6)
No	40.0 (36.8–43.1)	60.0 (56.9–63.2)
<b>18–64 years without CMC (n=848)</b>		
Yes	52.0 (45.6–58.4)	48.0 (41.6–54.4)
No	29.4 (25.2–33.5)	70.6 (66.5–74.8)
<b>18–64 years with CMC (n=414)</b>		
Yes	65.7 (58.3–73.2)	34.3 (26.8–41.7)
No	33.9 (26.7–41.1)	66.1 (58.9–73.3)
<b>65 years and older (n=828)</b>		
Yes	85.0 (81.2–88.8)	15.0 (11.2–18.8)
No	67.7 (62.6–72.7)	32.3 (27.3–37.4)

**DEFINITIONS:****CI:** Confidence interval.**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders**NOTE:** A total of 2,162 respondents who have visited their healthcare providers (HCP) since September 1, 2022, and 2,101 of them (97.2%) provided valid answers for the questions.**FOOTNOTES:**<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.**Influenza and COVID-19 vaccines co-administration**

This season, among those vaccinated against flu (n=1,811), about one-third of the adults (30%) had received a COVID-19 vaccine at the same time. Additionally, all the respondents were asked if receiving a COVID-19 vaccine at the same time as the flu vaccine would affect their likelihood of getting the flu vaccine. The majority of adults (66%) stated that receiving both vaccines at the same time would not affect their likelihood of getting vaccinated against the flu. 16% were more likely to get vaccinated, while 18% were less likely. (Table 8.1).

**TABLE 8.1:** Likelihood of receiving a flu vaccine while getting a COVID-19 vaccine at the same time

RESPONSE	% (95% CI)
More likely to get the flu vaccine	16.2 (14.7–17.6)
Less likely to get the flu vaccine	18.3 (16.7–19.9)
Would not affect the likelihood of getting the flu vaccine	65.5 (63.6–67.4)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 3,357 respondents provided a valid answer to this question.

The most important reason for being more likely to receive the flu and COVID-19 vaccines together was to save time (53%). 15% of the individuals were recommended to do so by a health care professional, and 10% found it easier to book an appointment. (Table 8.2).

**TABLE 8.2:** Top three reasons for being more likely to receive the flu vaccine when getting a COVID-19 vaccine at the same time

REASON	% (95% CI)
1. To save time	52.9 (48.0–57.9)
2. It was recommended by a health care professional	15.3 (11.7–18.8)
3. Easier to book an appointment	10.4 (7.4–13.3)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 535 respondents were more likely to receive flu and COVID-19 vaccines at the same time, and 522 of them (97.6%) provided a valid answer to this question.

Whereas the most common reason for being less likely to receive the flu and COVID-19 vaccines together was the concerns about a higher number of adverse reactions or side effects (42%), followed by the perception that receiving both vaccines at the same time could overload the immune system (23%). (Table 8.3).

**TABLE 8.3:** Top three reasons for being less likely to receive the flu vaccine when getting a COVID-19 vaccine at the same time

REASON	% (95% CI)
1. It might cause a higher number of adverse reactions/side effects	41.6 (36.8–46.5)
2. Two vaccines at the same time can overload my immune system	23.4 (19.1–27.8)
3. I only want or need one of the two vaccines	17.9 (14.2–21.7)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 569 respondents were less likely to receive flu and COVID-19 vaccines at the same time and 552 of them (97.6%) provided a valid answer to this question.

### Impact of the COVID-19 pandemic on influenza vaccination

With the ongoing COVID-19 pandemic, the 2022–2023 influenza vaccination coverage survey also aimed to identify the potential impact of the pandemic on flu vaccine uptake. All the respondents were asked if their likelihood of getting vaccinated against the flu had been affected due to the COVID-19 pandemic. Among those who provided a valid answer to the question (n=3,486), the majority (70%) stated that the COVID-19 pandemic did not impact their likelihood of getting the flu vaccine this year. However, 19% were more likely to receive the flu vaccine, while 11% were less likely. A higher proportion of younger adults with or without CMC (12% and 13%, respectively) reported being less likely to get the seasonal influenza vaccine due to the pandemic compared to seniors (6%). (Table 9.1).

**TABLE 9.1:** Impact of the COVID-19 pandemic on the likelihood of getting the flu vaccine, by risk group<sup>a</sup>

RESPONSE	% (95% CI)
<b>All adults ≥18 (n=3,486)</b>	
More likely to get the seasonal flu vaccine	18.8 (17.3–20.3)
Less likely to get the seasonal flu vaccine	11.0 (9.8–12.3)
Did not affect the likelihood of getting the seasonal flu vaccine	70.2 (68.4–71.9)
<b>18–64 without CMC (n=1,694)</b>	
More likely to get the seasonal flu vaccine	18.1 (16.1–20.2)
Less likely to get the seasonal flu vaccine	12.7 (10.9–14.6)
Did not affect the likelihood of getting the seasonal flu vaccine	69.1 (66.7–71.6)
<b>18–64 with CMC (n=587)</b>	
More likely to get the seasonal flu vaccine	19.9 (16.3–23.5)
Less likely to get the seasonal flu vaccine	11.8 (8.6–15.0)
Did not affect the likelihood of getting the seasonal flu vaccine	68.3 (64.0–72.6)
<b>≥65 years (n=1,190)</b>	
More likely to get the seasonal flu vaccine	19.8 (17.4–22.3)
Less likely to get the seasonal flu vaccine	5.9 (4.4–7.4)
Did not affect the likelihood of getting the seasonal flu vaccine	74.3 (71.6–77.0)

**DEFINITIONS:**

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 3,486 respondents provided a valid answer to this question.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

## COVID-19 vaccines

### COVID-19 vaccination coverage

Alongside the seasonal influenza vaccination, the survey also collected information on COVID-19 vaccination. During the data collection period (January 5 to February 20, 2023), the majority of adults in Canada (92%) had received at least one dose of a COVID-19 vaccine, and 91% had received two doses or more. However, 8% of adults reported never receiving a COVID-19 vaccine. The proportion of unvaccinated individuals was higher among younger adults with or without CMC (8% and 9%, respectively) compared to seniors (3%). (Table 10.1).

**TABLE 10.1:** Number of COVID-19 vaccine doses received, by risk group<sup>a</sup>

NUMBER OF DOSES RECEIVED	ALL ADULTS ≥18 (N=3,507) % (95% CI)	18–64 YEARS WITHOUT CMC (N=1,714) % (95% CI)	18–64 YEARS WITH CMC (N=587) % (95% CI)	65 YEARS AND OLDER (N=1,188) % (95% CI)
0 dose	7.7 (6.6–8.9)	9.5 (7.8–11.2)	8.1 (5.3–10.9) <sup>b</sup>	3.3 (2.2–4.5) <sup>b</sup>
1 dose	1.6 (1.1–2.2) <sup>b</sup>	2.1 (1.2–2.9) <sup>b</sup>	0.9 (0.0–1.8) <sup>c</sup>	1.2 (0.5–1.9) <sup>b</sup>
2 doses	22.4 (20.7–24.1)	28.9 (26.4–31.4)	22.4 (18.3–26.5)	6.1 (4.6–7.6)
3 doses	29.0 (27.2–30.7)	32.6 (30.1–35.1)	31.4 (27.1–35.7)	18.3 (15.9–20.7)
4 doses	26.2 (24.6–27.8)	21.9 (19.8–24.0)	28.9 (25.0–32.9)	34.4 (31.5–37.4)
5 doses or more	13.1 (12.0–14.2)	5.1 (4.1–6.2)	8.3 (6.1–10.4)	36.6 (33.7–39.6)

**DEFINITIONS:**

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 3,507 respondents provided a valid answer to this question.

**FOOTNOTES:**

- <sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.
- <sup>b</sup> Coefficient of variation between 16% and 33%; therefore, estimates should be interpreted with caution due to a higher level of error.
- <sup>c</sup> Coefficient of variation greater than 33%; therefore, estimates should be interpreted with caution due to a higher level of error.



## COVID-19 additional dose uptake

Additional dose of COVID-19 vaccines is defined as any dose(s) received after the completion of a 1-dose or 2-dose vaccine primary series. They are mostly booster doses but may include additional doses given for other reasons (e.g. for travel purposes, being immunocompromised). Additional doses received after completing the primary series are important because they can increase protection by activating immune response to restore protection that may have decreased over time.<sup>14</sup>

Overall, 68% of adults had received at least one additional dose of a COVID-19 vaccine. About one-third of the adults (29%) had received one additional dose, 26% had received two additional doses and 13% had received three additional doses or more. Notably, seniors had a much higher proportion (37%) of receiving three or more additional doses compared to younger adults with or without CMC (8% and 5%, respectively). (Table 11.1).

**TABLE 11.1:** Number of COVID-19 additional doses received, by risk group<sup>a</sup>

NUMBER OF DOSES RECEIVED	ALL ADULTS ≥18 (N=3,507) % (95% CI)	18–64 YEARS WITHOUT CMC (N=1,714) % (95% CI)	18–64 YEARS WITH CMC (N=587) % (95% CI)	65 YEARS AND OLDER (N=1,188) % (95% CI)
Primary series only (1 or 2 doses received)	24.0 (22.3–25.7)	31.0 (28.4–33.5)	23.3 (19.2–27.5)	7.3 (5.7–8.9)
1 additional dose	29.0 (27.2–30.7)	32.6 (30.1–35.1)	31.4 (27.1–35.7)	18.3 (15.9–20.7)
2 additional doses	26.2 (24.6–27.8)	21.9 (19.8–24.0)	28.9 (25.0–32.9)	34.4 (31.5–37.4)
3 additional doses or more	13.1 (12.0–14.2)	5.1 (4.1–6.2)	8.3 (6.1–10.4)	36.6 (33.7–39.6)
Never vaccinated	7.7 (6.6–8.9)	9.5 (7.8–11.2)	8.1 (5.3–10.9) <sup>b</sup>	3.3 (2.2–4.5) <sup>b</sup>

### DEFINITIONS:

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 3,507 respondents provided a valid answer to this question.

### FOOTNOTES:

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

<sup>b</sup> Coefficient of variation between 16% and 33%; therefore, estimates should be interpreted with caution due to a higher level of error.

### COVID-19 additional dose reluctance

Among individuals who received at least one additional dose (n=2,273), 16% have been reluctant to get one. The proportion was higher among young adults with or without CMC (17% and 20%, respectively) compared to seniors (9%). (Table 12.1).

**TABLE 12.1:** Proportion of individuals ever been reluctant to get a COVID-19 additional dose, by risk group<sup>a</sup>

RISK GROUP	% (95% CI)
All adults ≥18 years	16.2 (14.4–18.1)
18–64 years without CMC	20.0 (17.1–23.0)
18–64 years with CMC	17.2 (12.6–21.7)
65 years and older	9.2 (7.2–11.3)

**DEFINITIONS:**

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 2,273 respondents received at least one additional dose and 2,268 of them (99.8%) provided a valid answer to this question.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

The most commonly cited reason for being reluctant to get a COVID-19 additional dose was concerns about the side effects of having an additional dose (52%). Other reasons included having already had COVID-19 (19%) and believing that the primary vaccine series provided enough protection (17%). (Table 12.2).

**TABLE 12.2:** Top three reasons for being reluctant to get a COVID-19 additional dose

REASON	% (95% CI)
1. I have concerns about the safety and/or side effects of having a COVID-19 additional dose	51.7 (45.3–58.1)
2. I already had COVID-19	19.0 (13.9–24.1)
3. I am well protected after receiving two doses/being fully vaccinated	16.8 (12.0–21.5)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 326 respondents were being reluctant to get a COVID-19 additional dose, and 325 of them (99.7%) provided a valid answer to this question.

The most common reason for getting a COVID-19 additional dose despite the initial reluctance was the perception that the benefits are more important than risks (29%), followed by the recommendation of a healthcare professional (20%). (Table 12.3).

**TABLE 12.3:** Top three reasons for receiving a COVID-19 additional dose despite the initial reluctance

REASON	% (95% CI)
1. I thought the benefits are more important than risks	29.1 (23.5–34.8)
2. I was recommended by a health care professional	19.9 (14.6–25.2)
3. I was advised by a friend or a family member	19.2 (13.8–24.6)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 326 respondents were being reluctant to get a COVID-19 additional dose, and 319 of them (97.9%) provided a valid answer to this question.

### COVID-19 additional dose intent

Among individuals who had not received an additional dose of a COVID-19 vaccine (n=893), only 16% stated being very likely to get one in the future. About half (48%) were very unlikely, and 18% were somewhat unlikely to receive an additional dose. A higher proportion of younger adults without any CMC (50%) expressed being very unlikely to receive an additional dose compared to seniors (37%). (Table 13.1).

**TABLE 13.1:** Likelihood of receiving a COVID-19 additional dose in the future, by risk group<sup>a</sup>

RESPONSE	ALL ADULTS ≥18 (N=865) % (95% CI)	18–64 YEARS WITHOUT CMC (N=545) % (95% CI)	18–64 YEARS WITH CMC (N=147) % (95% CI)	65 YEARS AND OLDER (N=167) % (95% CI)
Very unlikely	48.4 (44.6–52.2)	49.9 (45.2–54.6)	49.6 (40.4–58.8)	36.6 (28.9–44.4)
Somewhat unlikely	18.0 (15.1–20.9)	20.2 (16.5–24.0)	12.9 (7.1–18.7) <sup>b</sup>	15.0 (9.3–20.7) <sup>b</sup>
Somewhat likely	17.5 (14.5–20.5)	17.6 (13.9–21.4)	15.7 (8.3–23.1) <sup>b</sup>	20.9 (14.1–27.6) <sup>b</sup>
Very likely	16.1 (13.5–18.8)	12.3 (9.3–15.2)	21.8 (14.6–29.0) <sup>b</sup>	27.5 (20.4–34.6)

**DEFINITIONS:**

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 893 respondents never received a COVID-19 additional dose, and 865 of them (96.9%) provided a valid answer for this question.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

<sup>b</sup> Coefficient of variation between 16% and 33%; therefore, estimates should be interpreted with caution due to a higher level of error.

Overall, almost half of the adults (47%) stated that they were very likely to continue receiving the COVID-19 doses as they become eligible for another additional dose. The proportion was significantly higher among seniors (70%) compared to younger adults with or without CMC (51% and 36%, respectively). (Table 13.2).

**TABLE 13.2:** Likelihood of keeping the COVID-19 additional doses up to date, by risk group<sup>a</sup>

RESPONSE	ALL ADULTS ≥18 (N=3,237) % (95% CI)	18–64 YEARS WITHOUT CMC (N=1,552) % (95% CI)	18–64 YEARS WITH CMC (N=543) % (95% CI)	65 YEARS AND OLDER (N=1,126) % (95% CI)
Very unlikely	19.6 (17.9–21.3)	23.6 (21.1–26.0)	18.1 (14.3–22.0)	11.4 (9.3–13.5)
Somewhat unlikely	13.0 (11.6–14.4)	17.8 (15.6–20.0)	9.1 (6.6–11.7)	5.4 (4.0–6.9)
Somewhat likely	19.9 (18.3–21.6)	22.3 (20.0–24.7)	22.2 (17.9–26.4)	12.8 (10.7–15.0)
Very likely	47.5 (45.5–49.4)	36.3 (33.7–39.0)	50.6 (45.8–55.4)	70.3 (67.4–73.3)

**DEFINITIONS:**

**CI:** Confidence interval.

**CMC:** Chronic medical conditions including asthma, lung diseases, heart conditions, cancer, diabetes, liver or kidney diseases, immune disorder, spleen problems, anemia, obesity, and blood disorders.

**NOTE:** A total of 3,237 respondents provided a valid answer for this question.

**FOOTNOTES:**

<sup>a</sup> 23 people aged 18–64 years did not disclose whether they had any chronic medical conditions (CMC) and were excluded from the stratified analysis.

The most commonly stated reasons among individuals who received at least one additional dose, or likely to receive one in future or to keep additional doses up to date was to protect themselves from getting infected (37%), and to protect their family members (24%) from COVID-19. 16% wanted to prevent the spread of the virus in their community. (Table 13.3).

**TABLE 13.3:** Top three reasons for receiving a COVID-19 additional dose

REASON	% (95% CI)
1. To protect myself personally from COVID-19	36.5 (34.5–38.6)
2. To protect my family members from COVID-19	23.5 (21.6–25.4)
3. To prevent the spread of COVID-19 in my community	15.7 (14.1–17.3)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 2,759 respondents had ever received a COVID-19 additional dose or were somewhat or very likely to receive one, and 2,714 of them (98.4%) provided a valid answer to this question.

On the other hand, the main reason for not being willing to get a COVID-19 additional dose was concerns about the side effects of having too many COVID-19 vaccines. 15% of the individuals thought that they were well protected with the current dose received and 13% stated that they already had COVID-19. (Table 13.4).

**TABLE 13.4:** Top three reasons for not receiving a COVID-19 additional

REASON	% (95% CI)
1. I have concerns about the safety and/or side effects of having so many COVID-19 vaccines	21.7 (18.8–24.6)
2. I am well protected with the current dose	14.6 (12.0–17.3)
3. I already had COVID-19	12.9 (10.4–15.4)

**DEFINITIONS:**

**CI:** Confidence interval.

**NOTE:** A total of 978 respondents had never received an additional dose or were somewhat or very unlikely to receive one in the future, and 942 of them (96.3%) provided a valid answer to this question.

## Knowledge, attitudes and beliefs regarding vaccination

The majority of adults (92%) reported considering vaccines to be important for their health, and 93% believed they knew enough about vaccines to make informed decisions. Additionally, 90% believed that the flu vaccine is safe, and a similar proportion (90%) understood why the flu vaccine is recommended annually. (Table 14.1).

**TABLE 14.1:** Knowledge, attitudes and beliefs (KAB) regarding vaccination

STATEMENTS	n	STRONGLY OR SOMEWHAT AGREE % (95% CI)
<b>All vaccines in general</b>		
In general, I consider vaccines to be important for my health.	3,534	91.5 (90.4–92.6)
I know enough about vaccines to make an informed decision about getting vaccinated.	3,521	93.0 (91.9–94.0)
<b>Influenza vaccine</b>		
The flu vaccine does not protect you against getting the flu.	3,398	38.9 (37.0–40.8)
Sometimes, you can get the flu from the flu vaccine.	3,340	39.5 (37.6–41.5)
It's a good thing for children to get natural immunity (protection) against flu by being exposed to the virus.	3,254	63.8 (61.9–65.6)
It's a good thing for adults to get natural immunity (protection) against flu by being exposed to the virus.	3,397	58.3 (56.4–60.2)
The opinion of my family doctor, general practitioner or nurse practitioner is an important part of my decision when it comes to getting the flu vaccine.	3,410	67.2 (65.4–69.0)
The flu vaccine is safe.	3,435	89.7 (88.5–90.8)
I understand why the flu vaccine is recommended annually.	3,503	89.4 (88.2–90.6)
It is safe to get the flu vaccine and a COVID-19 vaccine at the same time.	3,072	67.5 (65.5–69.4)
The flu vaccine or a COVID-19 vaccine could be less effective if getting them at the same time.	2,703	25.7 (23.8–27.7)
<b>COVID-19 vaccines</b>		
It's a good thing for children to get natural immunity (protection) against COVID-19 by being exposed to coronavirus.	3,338	46.3 (44.3–48.3)
It's a good thing for adults to get natural immunity (protection) against COVID-19 by being exposed to coronavirus.	3,382	45.4 (43.5–47.4)
It is important to stay up to date with COVID-19 vaccinations including additional doses.	3,503	73.7 (72.0–75.5)

**DEFINITIONS:**

**n:** Number of respondents (unweighted).

**CI:** Confidence interval.

While most people believed that the flu vaccine is safe, there were still a high proportion of adults (40%) who mistakenly believed that they might get the flu from the flu vaccine, which is not true. Flu vaccines cannot cause flu illness since flu vaccines are made with inactivated viruses that cannot cause disease.<sup>2</sup> Moreover, 39% felt that the flu vaccine does not protect them against getting the flu.

In addition, more than half of the adults believed that it is good for children (64%) or adults (58%) to get natural immunity against the flu by being exposed to the virus. In fact, when an individual is exposed to viruses or bacteria naturally, the developed immune response and symptoms are typically greater. However, when scientists are designing vaccines, they determine the smallest amount of virus or bacteria needed to generate a protective immunologic response. In this situation, vaccines afford protection with better control of the exposure. Moreover, any flu infection can carry a risk of serious complications, hospitalization or death, even among otherwise healthy children and adults. Therefore, getting vaccinated is a safer choice than risking illness to obtain immune protection.<sup>15</sup>

Despite the majority of the adults (67%) agreeing that it is safe to get the flu vaccine and a COVID-19 vaccine at the same time; more than a quarter of the adult population (26%) thought that the flu vaccine or a COVID-19 vaccine could be less effective if getting them together.

Overall, 67% of the population strongly or somewhat agreed that the opinion of their family doctor, general practitioner or nurse practitioner is an important part of their decision for getting the flu vaccine. This indicates that there is public trust in health care professionals and suggests that advice from a health care provider and the frequency of interaction with the health care system may play an important role in influenza vaccine uptake.

Regarding COVID-19 vaccines, almost half of the adults (46%) thought that it is a good thing for children to get natural immunity against COVID-19 by being exposed to coronavirus. Moreover, a similar proportion 45% believed that it is good for adults to get natural immunity against COVID-19 by being exposed to coronavirus. A previous COVID-19 infection or COVID-19 vaccination can both provide immunity and protection from serious outcomes. However, unlike the flu vaccine, COVID-19 vaccination provides a higher, more robust, and more consistent level of immunity to protect people from COVID-19 than infection alone.<sup>16</sup> Additionally, 74% strongly or somewhat agreed that it is important to stay up to date with COVID-19 vaccinations including additional doses.



## DISCUSSION

The results of the survey provided valuable insights into the influenza vaccination coverage and factors influencing vaccination decisions among adults in Canada during the 2022–2023 flu season. The overall influenza vaccination coverage among adults aged 18 years and older was 43%, which indicated an increase from the previous season (39%) and a return to pre-pandemic levels. However, this coverage falls significantly short of the national vaccination coverage goal of 80% for adults aged 18–64 years with CMC. Among this high-risk group, only 43% received the flu vaccine. Individuals unaware that they are considered at high risk of influenza-related complications may contribute to low coverage.<sup>17</sup> Seniors aged 65 years and older had a much higher vaccination coverage of 74%, bringing them closer to the target coverage goal.

The results also revealed a significant gender difference in influenza vaccination coverage, with females having a higher coverage (47%) than males (39%). This finding emphasizes the importance of targeted strategies to address the lower vaccination rates among males and promote gender equity in vaccination coverage.

The survey identified a notable trend in the place of influenza vaccination, with an increasing number of people reporting receiving their flu vaccine in pharmacies. This rise can be attributed to the growing number of jurisdictions allowing pharmacists to administer the influenza vaccine. The expanded role of community pharmacists in vaccine administration can help improve accessibility to flu vaccination.

The most common reason for being vaccinated against flu was to prevent infection or avoid illness. Whereas the most common reason reported by unvaccinated individuals was not getting around to it, indicating barriers related to time constraints and lack of prioritization. Among seniors, concerns about the safety or side effects of the vaccine were more prevalent, suggesting the need for targeted communication strategies to address vaccine hesitancy and address misconceptions.

Difficulties in scheduling an appointment and limited availability of the vaccine were reported by a small proportion of adults. However, the overall impact of these barriers on vaccine uptake was low, with only 15% of adults experiencing difficulties. This finding suggests that access to vaccination services was generally satisfactory during the flu season.

The impact of having the flu on future vaccination decisions varied among individuals. While the majority stated that having the flu this season would not affect their likelihood of getting the flu vaccine next year, a significant proportion expressed increased intention to vaccinate. Notably, those who had a severe case of the flu were more likely to seek vaccination in the future, highlighting the potential impact of personal experiences with the disease on vaccination behavior.

The role of healthcare providers (HCPs) in influencing vaccination decisions was evident in the survey results. Influenza vaccination coverage is notably higher among people who have been recommended by their health care professional to get the flu shot, underscoring the importance of provider recommendation in promoting vaccine uptake. However, the



proportion of vaccinated adults among those who did not receive such a recommendation was lower, indicating a potential missed opportunity for HCPs to influence vaccination decisions among their patients.

This year, approximately 30% of adults who received the flu vaccine also received a COVID-19 vaccine at the same time. The majority of adults stated that receiving a COVID-19 vaccine at the same time would not affect their likelihood of getting vaccinated against the flu. The convenience of saving time was a significant factor in opting for co-administration. On the other hand, concerns about adverse reactions or side effects and the potential overload on the immune system were the primary reasons for being less likely to receive both vaccines together. These reasons highlight the importance of addressing safety concerns and providing clear information about the compatibility and benefits of co-administering influenza and COVID-19 vaccines.

The survey also collected information on COVID-19 vaccination and additional doses. The results showed that a high proportion of adults in Canada had received at least one dose of a COVID-19 vaccine (92%), and the majority had received two doses or more (91%). Only 8% of adults reported never receiving a COVID-19 vaccine. However, the uptake of additional doses was relatively lower, with 68% of adults receiving one or more additional doses. Seniors had a significantly higher proportion of receiving three or more additional doses compared to younger adults. A small percentage expressed reluctance to receive an additional dose, primarily due to concerns about side effects and the perception that the primary vaccine series provided sufficient protection. These concerns highlight the importance of addressing safety concerns and providing clear information about the benefits and necessity of additional doses to increase acceptance.

The intention to receive future additional doses of COVID-19 vaccines varied among individuals who had not received an additional dose. Only a small proportion stated being very likely to get an additional dose, with a higher reluctance observed among younger adults without CMC. This finding suggests the need for targeted communication strategies to address hesitancy and promote the importance of additional doses for long-term protection against COVID-19.<sup>14</sup> Although severe disease from COVID-19 is less frequent in healthy young adults than in older adults or those with chronic disease, severe and lasting symptoms of COVID-19 do occur in younger adults.<sup>18</sup> It is therefore important for them to get vaccinated against COVID-19.

The survey also explored knowledge, attitudes, and beliefs regarding vaccination. While the majority of adults considered vaccines important for their health and believed they knew enough to make informed decisions, there were misconceptions present. A significant proportion believed they could get the flu from the flu vaccine and that the flu vaccine did not protect against the flu. Similarly, misconceptions were observed regarding natural immunity and the effectiveness of vaccines when administered together. These findings highlight the need for education campaigns to address misconceptions and improve vaccine literacy among the population.

The survey revealed a high level of trust in healthcare professionals, with a majority of individuals considering their advice important in the decision to get vaccinated. This finding emphasizes the crucial role of healthcare professionals in promoting vaccination and suggests that their guidance and recommendations can significantly influence vaccine uptake.

## STRENGTHS AND LIMITATIONS

The major strength of this survey was the timely reporting of seasonal influenza vaccination coverage across Canada. The timeliness of this survey allows Canada to meet its international reporting obligations and help identify priorities for future vaccination program planning. Additionally, the Seasonal Influenza Vaccination Coverage Survey is flexible in allowing question modules to be added or removed on an annual basis in light of changing priorities.

Limitations of this survey included the relatively low response rate of 10%. This response rate can increase the potential for non-response bias, as survey respondents may differ from those who chose not to complete the survey.

Additionally, survey respondents were interviewed within 6 months of the beginning of the seasonal influenza vaccination campaign to further mitigate recall bias. In addition, it appears in some studies that self-reported influenza vaccination status is a valid measure of vaccine exposure when medical records or registry data are not available.<sup>19</sup>

## CONCLUSION

The 2022–2023 influenza vaccination coverage survey in Canada revealed that 43% of adults received the influenza vaccine, with higher coverage among females and seniors. 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. The findings of the survey this year also shed light on the co-administration of influenza and COVID-19 vaccines, as well as the acceptance of additional doses of COVID-19 vaccines in Canada. The results highlight the convenience of co-administration for saving time, but also the importance of addressing safety concerns and providing clear information to alleviate hesitancy. Reluctance to receive additional doses indicates the necessity of addressing safety concerns and emphasizing the benefits of long-term protection. Addressing misconceptions and improving vaccine literacy are therefore crucial for increasing vaccination coverage in Canada.

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