Public Health Agency of Canada | Agence de la santé publique du Canada

# Survey on Vaccination During Pregnancy (SVP) 2024

Methodological Report

Prepared for the Public Health Agency of Canada
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***Ce rapport est aussi disponible en français.***

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# Survey on Vaccination During Pregnancy (SVP) 2024

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**Prepared for the Public Health Agency of Canada**

Supplier Name: Advanis Inc.
April 2025

This report presents the methodological details for the *Survey on Vaccination During Pregnancy (SVP) 2024*, conducted by Advanis Inc. on behalf of the Public Health Agency of Canada (PHAC). The survey was administered among 1,686 Canadians of individuals 16 years of age and older who have given birth within the past 12 months or who were at least 36 weeks pregnant between May 7, 2024, and March 22, 2025.

Ce rapport est aussi disponible en français sous le titre: Enquête sur la vaccination pendant la grossesse, 2024



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# 1. Executive Summary

## 1.1 Background and Objectives

The Vaccine Coverage and Effectiveness Surveillance (VCES) Division at the Public Health Agency of Canada (PHAC) launched a national survey to measure the prevalence of immunization coverage during pregnancy (SVP). While the SVP has previously been conducted by PHAC and Statistics Canada in 2019 and 2021, PHAC required the services of a Contractor to carry out fieldwork for the 2024 cycle of this national survey in all ten Canadian provinces and three territories.

The SVP is Canada's only national surveillance tool to measure the extent to which the National Advisory Committee on Immunization (NACI) recommended vaccines are administered during pregnancy.

Data from the SVP will inform future efforts to target vaccine recommendations and public health messaging for pregnant persons. The SVP also helps to provide the World Health Organization with estimates of national vaccination coverage for vaccines received during pregnancy such as pertussis.

Results from this survey will also inform the Pan-Canadian Public Health Network Council towards reaching national vaccination coverage goals and vaccine-preventable disease reduction targets and will be used to inform Canadian Immunization programs by monitoring progress towards increasing vaccination during pregnancy among Canadians.

The results from this survey will also help to identify areas where to promote vaccine uptake, leverage public opinion research to address evolving issues related to vaccine hesitancy. Research findings will identify factors associated with low vaccine uptake and where efforts need to be made to ensure vaccine equity and address data gaps among pregnant individuals regarding national vaccine coverage and hesitancy/refusal.

The target population for the 2024 SVP included individuals 16 years and older who at the time of the survey 1) had given birth to a child 0 to 12 months of age; OR 2) who were at least 36 weeks pregnant.

The primary objective of this research was to implement the 2024 SVP among individuals aged 16 years and older who have recently given birth to children 0 to 12 months of age in Canada. More precisely, the survey aimed:

- To obtain both national and regional coverage estimates on a biennial basis.
- To estimate immunization coverage for pertussis, influenza and COVID-19 vaccination received during pregnancy.
- To determine women's knowledge, attitudes, and beliefs (KAB) and hesitancy towards vaccination during pregnancy.
- To determine barriers to vaccination during pregnancy (e.g., obstacles to vaccination).

## 1.2 Methodology

Data collection was completed between May 7, 2024, and March 22, 2025. Respondents were offered an online survey through the use of Advanis' General Population Representative Sample (GPRS) and through random digit dialing (RDD).

The target audience for this project were individuals 16 years of age and older living in ten provinces and three territories who have given birth within the past 12 months or who were at least 36 weeks pregnant at the time of survey completion.

Advanis aimed at obtaining coverage as nationally representative as possible for the following key sub-populations:

- Individuals in these age groups: 16-29, 30-34, 35-39 and 40+ .
- Individuals in specific regions (Atlantic, Quebec, Ontario, Prairies, Alberta, BC and Territories).

Invitations and reminders were sent by SMS or email. Advanis collected a probability-based sample of 1,686 respondents. The global response rate to the study is 19.7%. The estimated margin of error is 2.38% at a 95% confidence interval.

Data was weighted based on regional distribution and age.

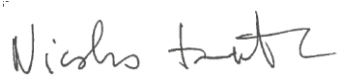
## 1.3 Contract Value

The contract value for this survey was $198,691.15 (including HST)

## 1.4 Political Neutrality Requirement

I hereby certify as a Senior Officer of Advanis that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research.

Specifically, the deliverables do not contain any reference to electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leader.



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# 2. Background and Objectives

The Vaccine Coverage and Effectiveness Surveillance (VCES) Division at the Public Health Agency of Canada (PHAC) conducts a national survey to measure the prevalence of immunization coverage during pregnancy (SVP) every two years. While the SVP has previously been conducted by PHAC and Statistics Canada in 2019 and 2021, PHAC contracted the services of Advanis to carry out fieldwork for the 2024 cycle of this national survey in all ten Canadian provinces and three territories.

Pregnant individuals are a group of Canadians with unique needs and vulnerabilities. Although PHAC conducts a number of vaccination coverage surveys of Canadian adults, none specifically captures vaccination for pregnant persons. This is because pregnant individuals are a small proportion of the population of Canadians, and too few are reached by general population surveys, therefore monitoring of vaccine uptake for pertussis, influenza, and COVID-19 among pregnant persons must be done through surveys designed specifically to target this population.

The SVP is Canada's only national surveillance tool to measure the extent to which the National Advisory Committee on Immunization (NACI) recommended vaccines are administered during pregnancy. The 2019 and 2021 cycles of the SVP collected information from pregnant individuals about pertussis and influenza vaccination, while in 2024 the SVP added questions to collect information about COVID-19 vaccination status and the intent to receive Respiratory syncytial virus (RSV) vaccination which was approved for use during pregnancy in December 2023. Approximately 1% of all infants in Canada are hospitalized with RSV in their first year of life which indicates an important need to prevent severe outcomes to this vulnerable population. Pregnant persons are also asked about their knowledge, attitudes, and beliefs (KAB) around the pertussis, influenza and COVID-19 vaccines.

Data from the SVP will inform future efforts to target vaccine recommendations and public health messaging for pregnant persons. Results from this survey will be used to inform Canadian Immunization programs by monitoring changes in vaccination during pregnancy over time in Canada and to help identify areas where to promote vaccine uptake. The Public Health Agency of Canada has developed a strategy to increase vaccine confidence and uptake designed to educate, engage, and empower Canadians. Monitoring knowledge, attitudes, and beliefs (KAB) towards vaccination during pregnancy will guide these educational and awareness efforts and will help to promote vaccination uptake. Lastly, the SVP data will be used to fulfill Canada's annual international reporting requirements to the World Health Organization by reporting estimates of national vaccination coverage for vaccines received during pregnancy such as pertussis.

The target population for the 2024 SVP included individuals 16 years and older who at the time of the survey 1) had given birth to a child 0 to 12 months of age; OR 2) were at least 36 weeks pregnant.

The primary objectives of the 2024 SVP are to:

- Obtain both national and regional coverage estimates for pertussis, influenza and COVID-19 vaccination received during pregnancy
- Determine women's KAB and hesitancy towards vaccination during pregnancy
- Determine barriers to vaccination during pregnancy (e.g., obstacles to vaccination)

More specifically, the survey collects the following data:

- Demographic characteristics of survey respondents; including age, gender identity, highest level of education achieved, geographic location, household income, employment status, ethnicity, chronic medical conditions, and disability status
- Immunization status for pertussis, influenza, and COVID-19 during pregnancy
- Recommendation by a health care provider to vaccinate during pregnancy
- Location of vaccination
- Reasons for not vaccinating and vaccine hesitancy during pregnancy
- KAB towards vaccination
- Obstacles to vaccination
- Trusted sources of information on vaccines
- Knowledge of RSV and intention to receive an RSV vaccine if it had been available

# 3. Methodology

## 3.1 Pilot Testing

A pilot test was conducted from May 7 to May 11, 2024, to make sure the survey questionnaire was well understood by respondents. In total, 20 completed surveys were collected in French and English. Interviews from the pilot test were kept in the final database.

## 3.2 Sample Planning

Data collection was completed between May 7, 2024, and March 22, 2025. Respondents were offered an online survey through the use of Advanis' General Population Representative Sample (GPRS) and through random digit dialing (RDD).

**The Sample Source: GPRS**

Over the past few years, Advanis has been developing its own proprietary General Population Random Sample (GPRS) using an IVR-to-Web and CATI-to-Web methodology. This sample includes about 600,000 Canadians. We use our proprietary interactive voice response (IVR) system and our in-house CATI call centre to conduct random digit dialing (RDD) to recruit respondents to be part of this sample. This method is probability-based; that is, every recruit has an equal and known chance of being invited to participate. We typically call all the participants to prompt participation. We have found that this ensures a better distribution of the Canadian population. Advanis GPRS leverages a known probabilistic sampling method used by Statistics Canada, called **multi-phase sampling**. This approach involves collecting data from *randomly selected sample units*, and then collecting more data from a randomly selected subsample[1].

[1] https://www150.statcan.gc.ca/n1/edu/power-pouvoir/ch13/prob/5214899-eng.htm

Unlike using traditional online panel samples, most of which is not randomly recruited (it is known as convenience sample), researchers can calculate the representativeness of the data collected from this sample with associated margins of error and can perform statistical testing on results. Furthermore, and unlike most traditional panel samples, all of Advanis' GPRS sample is **a)** new (the vast majority having been recruited since January 2018), and **b)** not "expert survey takers" since we survey each person no more than 8 times each year (our engagement is to not contact the same respondents within a minimum of a six-week period) and do not provide incentives. Therefore, our respondents will not have been contacted by Advanis during the 30-day period for a survey. It is important to note that we *only* use this sample for the public sector and not-for-profit studies. As such, this method offers:

- One key advantage of CATI surveying (random sampling that supports statistical testing); and
- One key advantage of online panel surveying (much lower cost than CATI).

Advanis leveraged its General Population Random Sample to invite respondents to complete the survey online. All Advanis web surveys are hosted internally by Advanis, and they are online 24 hours a day. Because Advanis fields online surveys in-house, we can employ a rigorous and stringent set of data collection control mechanisms to ensure the highest quality for the data collected including careful monitoring of response rates during all stages of the fielding process (and with all methods).

**Target Audience**

The initial target audience for this project was 2,500 individuals living in Canada who were 16 years of age and older in ten provinces and three territories and who have given birth within the past 12 months or those who were at least 36 weeks pregnant at the time of recruitment.

Recruitment targets were set for the following subgroups to ensure that nationally representative coverage estimates could be reported:

- Individuals in these age groups: 16-29, 30-34, 35-39 and 40+.
- Individuals in specific regions (as per above).

## 3.3 Questionnaire

The initial draft English questionnaire and the French translation were provided by PHAC. Advanis worked with PHAC to refine the questionnaire. The survey was programmed using SurveyBuilder, a software program that is proprietary to Advanis. The surveys were programmed to be available and completed online.

The online survey was compatible with both desktop computers and mobile devices (tablets and smartphones). The surveys were housed on a website hosted by Advanis.

The survey was designed to include multiple-choice questions, single response questions, including scaled, open-ended, and demographic questions. Skip logic was applied throughout, including thank-you messages used for the screening out of ineligible participants (people who did not give birth in the last 12 months or those who were not at least 36 weeks pregnant, people who did not reside in Canada for most of the time they were pregnant). The survey was thoroughly pre-tested to ensure that skip patterns and survey questions were correctly programmed. The average survey length was 14 minutes.

### 3.4 Data Collection

Invitations and reminders were sent by SMS or email. All SMS or emails were sent grouped by province to ensure that they were sent out during appropriate hours within each time zone. After sending the initial invitation, a reminder message was sent three days later to applicants who did not complete a survey or who were not screened out of the survey.

As mentioned previously, the initial target sample size of respondents was 2,500 but this target proved to be challenging to attain. This was due to the lower than expected incidence of women with a child of less than one year or women who were at least 36 weeks pregnant in the GPRS pool. The initial estimation of the incidence of the target population in the GPRS was based on an experiment conducted by Advanis two years prior to the 2024 SVP. Since the population incidence for this study is very low, even a small variation in the expected incidence has a large impact on the number of surveys collected. For this reason, the target sample size was lowered to 2,000 in order to complete data collection within the expected timeline.

However, a "stop work" order was issued on March 23, 2025 because a federal election was called. The decision was made to stop data collection at that time and begin analysis of the 1,686 completed surveys, which is less than the target sample size.

Advanis invited all women aged 16 to 44 from its GPRS sample pool to take part in the survey. In total, 128,738 potential participants were contacted by phone. The table below presents the status of records contacted. The global response rate to the study is 19.7%[2]. The estimated margin of error is 2.38% at a 95% confidence interval.

**Table 1: Status of records contacted**

| Status | Counts per status |
|---|---|
| **Contacted by phone** | **128,738** |
| Refused to receive an invitation | 8,785 |
| Did not answer or were not available | 28,381 |
| Invited by SMS or Email | 91,572 |
| No answer to survey | 66,146 |
| Dropped off during survey | 98 |
| Screened out (did not qualify) | 23,635 |
| Dropped because of invalid responses | 7 |
| Completed | 1,686 |

[2] POR response rate formula: (R) 1,693 participants + 23,635 screened out / (U) 94,527 + (IS) 8,883 + (R) 1,693 participants + 23,635 screened out

The tables below present the counts by province/territory and age.

**Table 2**: **Number of completed surveys by province or territory of residence**

| Province or territory of residence | Count | Unweighted % |
|---|---|---|
| Newfoundland and Labrador | 10 | 1% |
| Prince Edward Island | 5 | 0% |
| Nova Scotia | 44 | 3% |
| New Brunswick | 22 | 1% |
| Quebec | 521 | 31% |
| Ontario | 594 | 35% |
| Manitoba | 60 | 4% |
| Saskatchewan | 51 | 3% |
| Alberta | 228 | 14% |
| British Columbia | 148 | 9% |
| Yukon | 2 | 0% |
| Northwest Territories | 1 | 0% |
| Nunavut | 0 | 0% |
| **Total** | **1,686** | **100%** |

**Table 3: Number of completed surveys by age group**

| Age Groups | Count | Unweighted % |
|---|---|---|
| 16-29 | 198 | 12% |
| 30-34 | 587 | 35% |
| 35-39 | 629 | 37% |
| 40 or older | 202 | 12% |
| Prefer not to say | 70 | 4% |
| **Base** | **1,686** | **100%** |

All Advanis Web surveys are hosted internally by Advanis, and we employ a rigorous and stringent set of data collection control mechanisms to ensure the highest quality for the data collected, including:

- Respondents have a unique number embedded in the hyperlink to eliminate the possibility of duplicate responses from one participant.
- Extensive internal logic checks are programmed directly into the survey to ensure logical responses.
- Web surveys are implemented using Advanis' proprietary software (which is designed to handle complicated survey formats).
- Advanis administered a detailed internal test and an external pretest to ensure that the survey instrument was working as planned.
- The questionnaire was tested in multiple browsers and PHAC was provided with a link for internal testing.

NOTE: Two separate feasibility studies were conducted by PHAC to 1) test social media recruitment for the SVP and 2) test direct recruitment of Indigenous respondents through networks of Indigenous partners. Data collection for these was conducted by PHAC in parallel to data collection conducted by Advanis for the 2024 SVP. Advanis provided PHAC with open links to the online survey using the same questionnaire as used for the 2024 SVP. The open links were promoted on the PHAC Facebook page and also shared with Indigenous partners to survey Indigenous populations. Different links were provided for social media use and to share with Indigenous partners in order to differentiate each type of respondent. In total, 113 respondents completed the survey through the social media link and none with the link shared with Indigenous partners. Respondents recruited through social media were not weighted nor included in the final weighted dataset of 1,686 respondents.

## 3.5 Weighting

Overall, 1,686 people completed the survey. For weighting, a rake weighting approach was employed. Rake weighting was applied to adjust survey weights to make the sample align with known population margins, as the full joint distribution was not available. A limitation of this approach is that when crossing two variables, the joint distribution is often close but not exact, since raking adjusts weights iteratively and asymmetrically, one margin at a time. Population counts from Statistics Canada were used, using the 2021 Census. It contained population counts for women+ 16 years and over with children aged less than 1 year population. To achieve this, regions were regrouped into six categories and age groups into four. In total, 24 segments were used for weighting.

If respondents refused to give their exact age, which was the case with 70 respondents, they were asked to select an age category. However, the age categories provided in the questionnaire did not align with the weighting scheme for all respondents. For this reason, respondents who mentioned being in the 25-34 age category were randomly reassigned into the 16-29 and 30-34 weighting categories while respecting the population proportions of the 2021 Census. Respondents who mentioned being in the 35-44 age category were randomly reassigned in the 35-39 or 40 or older weight categories following the same logic. In total, 70 cases were randomly reassigned.

The weighting categories are outlined in the table below:

**Table 4: Weight categories**

| | |
|---|---|
| Region | Atlantic (Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick)<br>Québec<br>Ontario<br>Prairies (Saskatchewan and Manitoba)<br>Alberta<br>British Columbia and the Territories (Northwest Territories, Yukon and Nunavut) |
| Age categories | 16-29 years old<br>30-34 years old<br>35-39 years old<br>40 years or older |

### 3.5.1 Detailed description of bootstrap weighting[3]

#### 3.5.1.1 Background

Data obtained from complex large-scale surveys, cross-sectional as well as longitudinal studies, typically involve stratified, multi-stage cluster sampling, leading to dependencies among sample elements or unequal probabilities of selection, which frequently means unequal design weights[4]. Additionally, weights are often calibrated to known population totals of auxiliary variables as well as subjected to unit non-response adjustments.

Because of this, application of standard statistical methods to survey data could lead to incorrect inferences even for large samples: underestimation of standard errors of estimators, inflated type I error rates (probabilities of rejecting a true null hypothesis) and erroneous model diagnostics. Different bootstrapping schemes have been used and developed since and factors such as resampling replications, calibration, and balancing have to be considered[5].

#### 3.5.1.2 General methods

Bootstrap belongs to a family of variance estimation techniques known as replicate-based variance estimation. The steps for constructing replicate weights for a survey are:

1. Choose the method for replicate variance estimation. Bootstrap produces consistent variance estimators for smooth functions of means and quantiles and allows to view the sampling distribution for statistics calculated from the data. The main disadvantage of bootstrap is that it requires a large number of replicates to produce a reliable estimate (in this case, 500 replicates were created).
2. Construct the columns of sampling weights (wi). The sampling weight for unit i is the reciprocal of the probability the unit was selected to be in the sample. The final weight for unit i (w * i) incorporates any weighting adjustments, post-stratification, raking or calibration.
3. Construct replicate sampling weight vectors w1, w2, …., w500 using the method selected in step 1. For bootstrap, w1 is the vector of weights created from the first bootstrap resample. This step applies the replicate weight method to the sampling weights from the full sample.
4. For each replicate weight vector wr, for r=1, ..., 500, apply the same adjustments that were used to arrive at the final weights w * i in step 2. The result is a set of replicate weights w * 1, …, w * 500.

All of the methods produce variance estimates of the form:

$$\sum_{r=1}^{500} c_r \left(\hat{\theta}_r - \hat{\theta}\right)^2$$

[3] Adapted from Sampling: Design and Analysis, 3rd ed.: Sharon L. Lohr, Boca Raton, FL: Chapman & Hall/CRC Press, 2022, xxiii + 650 pp., ISBN 978-0367279509.

[4] Statistics Canada 2006. https://www150.statcan.gc.ca/n1/en/pub/11-522-x/2006001/article/10416-eng.pdf?st=Uyb-g6Bp

[5] Statistics Canada 2006. https://www150.statcan.gc.ca/n1/en/pub/11-522-x/2006001/article/10416-eng.pdf?st=Uyb-g6Bp

Where the coefficients cr depend on the method used. For bootstraps cr =(1/(R-1) for replicate r. The replicate variance estimator has the form for any statistic, whether that statistic is an estimated mean, population total, ratio, regression or correlation coefficient, or quantile.

Poststratification is often used when a sample does not reflect the distribution of some known variable in the population. When sampling quotas have been used to oversample units that belong to a small but important subgroup, then those sample units that had higher selection probabilities represent fewer population units. Therefore, in this situation, weights are not inverse selection probabilities, but ratios of population size to sample size within post-strata.

If this type of sampling has been used, post-stratification weights must be defined as the ratio of population size to design-weighted sample size. Note that post-stratification reduces the sampling error because the weighted average of the within post-strata variance is smaller than the overall variance. Variables that are associated with the post-stratification variables will also have reduced variance.

#### 3.5.1.3 Analysis

In Stata, the svyset command can be used to calculate reliable estimates of the variance to account for the complex survey design. The svyset statement to be used in Stata for 500 mean bootstrap weights each composed of 12 bootstrap weights would have the following form:

```
svyset [pweight=weight], bsrweight(Wgt_1-Wgt_500) bsn(12) vce(bootstrap) dof(499)
```

Declaring pweight=weight tells Stata that the survey weight is the variable weight. The option vce(bootstrap) states that bootstrap variance estimation should be used. The option bsn(12) states that variance estimation should be done with a bootstrap mean-weight adjustment of 12. The option bsrweight (Wgt_1-Wgt_500) states that the bootstrap weight variables are Wgt_1, Wgt_2, …, Wgt_500.

Other software, like SAS, could calculate proper variances when mean bootstrap weights are provided by applying the BRR variances or using Fay coefficient[6].

#### 3.5.1.4 Limitations

The empirical properties of variance estimators depend on the size and composition of the estimation domain. Moreover, certain bootstrap schemes are appropriate only in certain circumstances and therefore non-response corrections and other weight adjustments have to be considered.

Bootstrapping may not always be the best method for variance estimation, but is applicable in a wider set of circumstances, such as when the sample size is insufficient for direct statistical inference (usually the case in general population samples), when the theoretical distribution of a statistic of interest is complicated or unknown, or when power calculations are needed from a small sample. This explains its popularity when estimating variance for complex studies.

The trade-off between bias and variance for complex survey data are well known. It is recommended to assess the efficiency when using different types of methods to determine if the trade-off is worthwhile.

[6] https://documentation.sas.com/doc/en/statcdc/14.2/statug/statug_surveymeans_details49.htm

The data presented in the full report will be analyzed using bootstrap weighting and balanced repeated replication (BRR) to obtain weighted population estimates representative of the adult population of pregnant persons living in Canada, and will support the estimation of variance. This allows for reporting national population-representative estimates of immunization coverage and, depending on the degree of variance, estimates for sub-populations. The bootstrap weights were calibrated using two criteria from population data obtained from the 2021 Census of Population: age groups and geographic location.

In general, there are several methods to developing bootstrap weights, each with their advantages and disadvantages. Bootstrapping schemes can take into account many factors, such as population size, available data about a population, and what sub-categories of the general population are being used to develop the bootstrap weights.

It is important to note that there are limitations to any method of design and estimation in survey sampling. The sample was obtained using Advanis' GPRS and this method, while strong and well-established, limits respondents to those who have access to a landline or cellphone, who speak English or French, and who are both literate and competent with electronic devices to be able to complete the self-administered survey online. The likelihood of them participating may be reduced considering their reading skills and thus their non-response bias cannot be fully accounted for in the bootstrap weights. Even though all estimates should be treated as valid and sound, the limitations listed should be considered when deriving any conclusions from the data.

## 3.6 Data Cleaning

The database was cleaned to remove any errors at the end of the data-collection phase, and any unique identifiers in the respondent's profiles were removed in the final dataset provided to PHAC. Any "Other, specify" verbatim responses were carefully reviewed and integrated into existing levels. "Other, specify" verbatim responses for the following variables were recoded when applicable.

- q11
- q17new_a
- q17new_b
- q17new_c
- q18
- q20
- q22
- q28
- q30
- q32
- q38
- q42
- q47
- q48
- q51
- q57
- q60

## 3.7 Quality Control

Advanis employs several quality control measures to ensure success across the entire life cycle of the project. These measures are detailed below.

**Survey Programming:** Advanis utilizes technology to maximize quality control in survey programming. Having developed a proprietary survey engine tool, Advanis professionals are able to design and program a survey in a browser-based environment, eliminating the need to involve a programmer who is less familiar with the survey subject matter. The survey was thoroughly pre-tested by Advanis' project team members, as well as by non-team members (non-team members provide "fresh eyes" for catching potential errors).

**CATI Methodology:** The CATI recruit script was programmed on Advanis' proprietary CATI platform with no unforeseen challenges. Advanis was able to leverage its experience for the survey programming and the reminder process to achieve high quality standards. Advanis implemented the following to ensure the highest quality data collection:

- Trained the interviewers to best understand the survey's objectives and to ensure that they were able to pronounce and understand the survey wording.
- Detailed call records were kept by the automated CATI system, and were monitored for productivity analysis (i.e., not subject to human error).
- The recruit scripts were pre-tested for best possible flow.
- Our average interviewer employment tenure is very high compared to industry standards, resulting in a team of interviewers who are more experienced and knowledgeable regarding the target audience.
- Advanis' Quality Assurance team listened to the actual recordings of ten percent of completed surveys and compared the responses to those entered by the interviewer, to ensure that responses were properly recorded. This is in addition to the live monitoring done by field supervisors.
- Team Supervisors conduct regular, more formal evaluations with each interviewer, in addition to nightly monitoring of each interviewer on their team.

To ensure high interview quality, our interviewers are trained to use various interviewing techniques. As well as maintaining a professional attitude, our interviewers must also be convincing, read word-for-word, take notes, systematically confirm the information given and listen to the respondent. Advanis has also created internal tools within the survey script for interviewers allowing them to use the phonetic alphabet to confirm email address spelling (e.g., a for alpha, b for bravo, etc.) to help reduce the amount of bounced email addresses. However, should bounced emails occur, Advanis has also developed additional tools that allow for someone to re-listen to the recording and easily adjust to correct the email address.

**Web Methodology:** All Advanis web surveys are hosted internally by Advanis, and employ a rigorous and stringent set of data collection control mechanisms to ensure the highest quality for the data collected, including:

- Respondents have a unique access code to ensure that only that participant can complete the online survey.
- Extensive internal logic checks are programmed directly into the survey to ensure logical responses.
- Web surveys are implemented using Advanis' proprietary software (which is designed to handle complicated survey formats).
- Advanis administered a detailed internal test and an external pretest to ensure that the survey instrument was working as planned.
- Tested the questionnaire in multiple browsers and provided PHAC with a link so they could do internal testing.

**Data Handling and Reporting:** For the data collected, Advanis develops rules to check the validity of the data. These rules include items such as:

- Time taken to complete the survey.
- Checking for verbatims that are gibberish or don't make sense.
- Rigorous checks are completed to ensure the data is accurate and error-free according to the questionnaire logic (skip patterns).

All data cleaning performed on projects are outlined and tracked in an internal specification document so they can be quality assured and signed off on. The original raw data file is never overwritten, so that if an

error is discovered in our code, we can quickly and easily rerun things to produce a new data file. Individuals developing code incorporate internal checks in their code (e.g., crosstabs) to ensure the adjustment had the desired effect. In addition, all recordings are reviewed by another team member or technical specialist for accuracy.

# 4. Guidelines for Analysis and Release

For this survey, the basic sociodemographic information that should be used in the analysis of results are:

- Regions (Atlantic, Quebec, Ontario, Prairies, BC and Territories)
- Age groups: 16 to 29, 30 to 34, 35 to 39, and 40 plus, or any unaltered grouping of theses ranges (i.e., 16 to 34 or 35 to 40 plus)

Using age groupings other than the ones described above could potentially produce distorted data. As these results would be inaccurate based on how the weights were calculated, we strongly advise not to report any results that are not aligned with these specified categories.

Any results with an unweighted base size (denominator) of less than 30 should not be reported and should be suppressed due to statistical robustness. [7-8] This is due to the increased coefficient of variation and, hence, there are larger confidence intervals around results with smaller bases. Furthermore, for confidentiality purposes, any estimates with an unweighted numerator of less than 5 (i.e., 1 to 4) should be suppressed.

For all estimates based on a denominator size of 30 or more, the following guidelines for data suppression related to coefficient of variations (CV) should be used when reporting estimates:

**Table 5: Guidelines for analysis and release**

| Type of Estimate | CV (in %)[9] | Guidelines |
|---|---|---|
| Acceptable | CV ≤ 15.0 | Estimates can be considered for general unrestricted release. Requires no special notation. |
| Marginal | 15.0 < CV ≤ 35.0 | Estimates can be considered for general unrestricted release but should be accompanied by a warning cautioning users of the high sampling variability associated with the estimate. |
| Unacceptable | CV > 35.0 | It is recommended to not release estimates of unacceptable quality. |

Examining the confidence interval of the estimate will provide further indication of the quality of the estimate in terms of the variability. Long confidence intervals indicate less precision in the estimate while smaller confidence intervals indicate greater precision. When assessing the trustworthiness of sample proportions, the confidence intervals of estimates should be taken into account.

[7] CDC. National Center for Health Statistics Data Presentation Standards for Proportions. 2017. Available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf

[8] Statistics Canada. Canadian Community Health Survey User Guide. 2021.

[9] CV= (standard error / coefficient) * 100 where the coefficient is either the regression coefficient or the proportion estimate.

### 4.1 Rounding Guidelines

Users are urged to adhere to the following rounding guidelines for estimates.

- Estimates in the main body of a statistical table are to be rounded to the nearest hundred units using the normal rounding technique. In normal rounding, if the first or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is raised by one. For example, in normal rounding to the nearest 100, if the last two digits are between 00 and 49, they are changed to 00 and the preceding digit (the hundreds digits) is left unchanged. If the last digits are between 50 and 99, they are changed to 00 and the preceding digit is increased by 1.
- Marginal sub-totals and totals in statistical tables are to be derived from their corresponding un-rounded components and then are to be rounded themselves to the nearest 100 units using normal rounding.
- Averages, rates and percentages are to be computed from un-rounded components (i.e., numerators and/or denominators) and then are to be rounded themselves to one decimal using normal rounding. In normal rounding to a single digit, if the final or only digit to be dropped is 0 to 4, the last digit to be retained is not changed. If the first or only digit to be dropped is 5 to 9, the last digit to be retained is increased by 1.
- Under no circumstances are un-rounded estimates to be published or otherwise released by users. Un-rounded estimates imply greater precision than actually exists.

## 5. Non-response Bias

Non-response bias occurs when non-responders differ in a meaningful way from respondents and this difference impacts the information gathered. It is difficult to assess the presence of non-response bias since information about why non-responders did not participate is usually unavailable. That said, one way to gauge the potential impacts of non-response bias is to evaluate if the sample is representative by comparing the respondents' characteristics and gauge if they reflect known population characteristics.

Where possible, we can check the distribution of respondents across various demographics (e.g., age and region) and compare those distributions against known population characteristics. If the variation is fairly small and we have no reason to believe there are other factors impacting respondents' willingness to participate, we can conclude that the likelihood of non-response bias impacting the information gathered in the study is minimal. In this case, we know that younger pregnant people (16 to 29) are underrepresented in the sample.

Several strategies were employed to increase response rates and reduce the effects of non-response bias. This includes:

- Recruiting respondents by telephone, which achieves a higher response rate compared to email invitations.
- Outpulsing a local phone number (rather than a toll-free number) and the name of the study sponsor ("GovCanada"), which increases pick-up rates (reducing call screening).
- Sending an SMS text message to recruits, which assures a seamless transition from the telephone survey to the online survey, as receipt can be confirmed in real-time and encourages respondents to complete the survey as soon as the call ends.
- Informing the potential respondent of the study sponsor to enhance credibility and reassure the respondent that the call is not a scam.
- Offering the survey in both official languages to maximize ease of completion.

# Appendices

## Appendix A: Weights for the rake weighting method

| Weighting category | Weight |
|---|---|
| 16 to 29 years old, Atlantic | 2.778 |
| 16 to 29 years old, Quebec | 1.839 |
| 16 to 29 years old, Ontario | 2.925 |
| 16 to 29 years old, Prairies | 2.960 |
| 16 to 29 years old, Alberta | 2.528 |
| 16 to 29 years old, BC and territories | 3.780 |
| 30 to 34 years old, Atlantic | 1.169 |
| 30 to 34 years old, Quebec | 0.774 |
| 30 to 34 years old, Ontario | 1.231 |
| 30 to 34 years old, Prairies | 1.246 |
| 30 to 34 years old, Alberta | 1.064 |
| 30 to 34 years old, BC and territories | 1.591 |
| 35 to 39 years old, Atlantic | 0.617 |
| 35 to 39 years old, Quebec | 0.409 |
| 35 to 39 years old, Ontario | 0.650 |
| 35 to 39 years old, Prairies | 0.658 |
| 35 to 39 years old, Alberta | 0.562 |
| 35 to 39 years old, BC and territories | 0.840 |
| 40 years old or older, Atlantic | 0.530 |
| 40 years old or older, Quebec | 0.351 |
| 40 years old or older, Ontario | 0.558 |
| 40 years old or older, Prairies | 0.565 |
| 40 years old or older, Alberta | 0.482 |
| 40 years old or older, BC and territories | 0.721 |

**Appendix B: Questionnaire**

# Survey on Vaccination During Pregnancy (SVP) 2024

Government of Canada

**Languages:** English, French

## Section Login page

wcag, LoginTCH, record

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## Page Consent

**wcag** *Show if OfferWCAG*

Si vous préférez répondre à l'étude en français, veuillez cliquer sur français dans le coin supérieur droit.

You are being invited to participate in the 2024 Survey on Vaccination During Pregnancy (SVP), which is distributed by the survey firm Advanis (https://advanis.net) (opens in a new window) on behalf of the Public Health Agency of Canada. The online survey is voluntary, and you may withdraw at any time. The survey will take approximately 10-15 minutes to complete.

The aim of the survey is to gather information about vaccinations received by pregnant women or pregnant individuals in Canada. The survey will also ask about attitudes and beliefs towards vaccines recommended during pregnancy.

You may skip questions that you do not feel comfortable answering by clicking “Prefer not to answer” where applicable. Your answers will remain confidential, and we will not ask you to provide us with any information that could directly identify you, such as name(s), or full date of birth. The protection of your personal information is very important to us, and we will make every effort to safeguard it.

Once data collection is complete, Advanis will provide the Public Health Agency of Canada (PHAC) with a dataset that researchers have no way of knowing which data belongs to which participant. The dataset will also be available to federal and provincial governments and researchers across Canada, if requested. Any reports or publications produced based on this research will use grouped data and will not identify you or link you to these survey results.

This research has been approved by the Public Health Agency of Canada Research Ethics Board.

For more details about your personal information and the Privacy Act,

## please read below.

**If you agree to participate in this survey, please click on the following button to continue:**

If you have any questions or concerns about the survey or personal information we are collecting, or require technical support, please contact: survey+phac2024254@tellcityhall.ca. (mailto:survey+phac2024254@tellcityhall.ca)

This survey is registered with the Canadian Research Insights Council's (CRIC) Research Verification Service. The project verification number is: 20240501-AD788. Click here (opens in a new window) (https://www.canadianresearchinsightscouncil.ca/rvs/home/) to verify the legitimacy of this survey.

PRIVACY NOTICE
Why are we collecting your information?
The aim of the Survey on Vaccination during Pregnancy is to measure vaccinations received by pregnant women in Canada. The survey will also ask about your views on vaccines recommended during pregnancy.

Your answers will help develop vaccination programs in Canada. You will be asked a variety of questions, such as age, ethnicity and the vaccines you received during your most recent pregnancy.

Your answers will remain confidential. The protection of your personal information is very important to us, and we will make every effort to safeguard it and reduce the risk that you are identified.

What is the Authority to Collect the Information?
The information you provide to the Public Health Agency of Canada is collected under the authority of section 4 of the *Department of Health Act* and section 3 of the *Public Health Agency of Canada Act* and handled in accordance with the Privacy Act.

What happens if you don't want to provide your personal information?
Your decision to participate is yours alone and there will be no consequences if you decide not to participate. You may refuse or withdraw from this study at any time.

Will we use or share your personal information for any other reason?
The survey firm, Advanis (http://advanis.net) (opens in a new window), will be responsible for collecting survey data from all participants. Once data collection is complete, Advanis will provide the Public Health Agency of Canada (PHAC) with a dataset that will not include any direct personal identifiers to help support your confidentiality. The dataset will also be available to federal and provincial governments and researchers across Canada, if requested and approved by PHAC. Any reports or publications produced based on this research will use grouped data and will not identify

you or link you to these survey results.

What are your rights?
In addition to protecting personal information, there is a right to file a complaint with the Privacy Commissioner of Canada concerning the handling of your information.

If you have any questions or concerns about the survey or personal information we are collecting, or require technical support, please contact: survey+phac2024254@tellcityhall.ca (mailto:survey+phac2024254@tellcityhall.ca)

The collection of your personal information is described in Info Source (https://www.canada.ca/en/public-health/corporate/mandate/about-agency/access-information-privacy/info-source-federal-government-employee-information.html).

What You Will Be Asked to Do
You will be asked to complete a 10-15-minute survey to answer questions related to vaccines received during pregnancy. Please note that certain questions will be asked at the start of the survey, to determine if you are eligible to participate. If you are not eligible to participate, your data will be removed and destroyed.

Participation
Participation in this study is voluntary and you can withdraw at any time, and there will be no consequences if you decide not to participate. Your decision to participate does not waive your right to legal recourse in the event of research-related harm. You may skip any questions that you do not feel comfortable answering by checking 'Prefer not to answer' when applicable. You may also complete the survey in several sessions and from different devices. Once data has been collected, please note that researchers have no way of knowing which data belongs to which participant.

Benefits
By participating in this study you will help advance understanding of Canadians' uptake of vaccines.

Confidentiality
The SVP will not collect information that directly identifies you and data will be stored on password-protected computers. Responses will be grouped for analysis and presented in grouped form. Your responses will remain anonymous.

- ❍ 1 If you require a screen reader or assistive device to complete this survey, check this box to access a compatible version
- ❍ 2 Start Survey

# Section Survey Questions

Q1, Q3, Q4, Q5, Q6, Q5intent, Q5term1, Q5term, Q2, Q7, Q8, Q9, Q9Term, Q61, Q62, Q11, Q10, Q10A, Q12, Q13, Q44, Q14new, Q15new, Q16new1, Q16new2, Q16new3, Q17new, Q34, Q34a, Q19new, Q18, Q20, Q21, Q22, Q23, Q28, Q30, Q31, Q32, Q33, Q35, Q36, Q36a, Q38, Q40, Q41, Q42, Q43, Q45, Q46, Q47, Q48, Q49, Q50, Q50a, Q51, Q52, Q53, Q54, Q55, Q56, Q57, Q58, Q59, Q60, Q63

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## Page Screeners

### Q1

Did you give birth to a child who is currently 0 to 12 months of age?

- ❍ 1 Yes
- ❍ 0 No

### Q3 *Show if Gave birth past 12months*

After how many weeks of pregnancy was this child born?

Minimum: 24, Maximum: 42

_____

### Q4 *Show if Gave birth past 12months*

When did you give birth to this child?

- ❍ 1 1 month ago
- ❍ 2 2 months ago
- ❍ 3 3 months ago
- ❍ 4 4 months ago
- ❍ 5 5 months ago
- ❍ 6 6 months ago
- ❍ 7 7 months ago
- ❍ 8 8 months ago
- ❍ 9 9 months ago
- ❍ 10 10 months ago
- ❍ 11 11 months ago
- ❍ 12 12 months ago

### Q5 *Show if Did not gave birth past 12 months*

Are you currently pregnant?

- ❍ 1 Yes
- ❍ 0 No

**Q6** *Show if Is currently pregnant*

How many weeks pregnant are you?

Minimum: 2, Maximum: 42

_____

**Q5intent** *Show if Is Not pregnant AND did not gave birth 12months*

Is it in your plan to try to become pregnant in the coming year?

- ❍ 1 Yes
- ❍ 0 No
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q5term1** *Show if Is pregnant less than 36 weeks AND Did not give birth past 12 months*

This survey is designed to capture information about immunization for people who gave birth in the last 12 months or those who are at least 36 weeks pregnant. We will recontact you in a few weeks when you are at least 36 weeks pregnant. Thank you for your time.

Status Code: 503

**Q5term** *Show if Is Not pregnant AND did not gave birth 12months*

This survey is designed to capture information about immunization for people who gave birth in the last 12 months or those who are at least 36 weeks pregnant. Thank you for your time.

Status Code: 501

**Q2** *Show if Gave birth past 12 months OR At least 36 weeks pregnant*

At how many weeks did you realize you were pregnant?

Minimum: 2, Maximum: 42

_____

**Q7**

Do you currently live in Canada?

- ❍ 1 Yes
- ❍ 0 No

**Q8**

(Show if Q7=1) What is your current province or territory of residence?
(Show if Q7=0) What was your province or territory of residence before leaving Canada?

- ❍ 1 Newfoundland and Labrador
- ❍ 2 Prince Edward Island
- ❍ 3 Nova Scotia
- ❍ 4 New Brunswick
- ❍ 5 Quebec
- ❍ 6 Ontario
- ❍ 7 Manitoba
- ❍ 8 Saskatchewan
- ❍ 9 Alberta
- ❍ 10 British Columbia
- ❍ 11 Yukon
- ❍ 12 Northwest Territories
- ❍ 13 Nunavut

**Q9**

Did you reside in Canada for most of the time you were pregnant with this child? *If you travelled outside of Canada for less than 3 months during your pregnancy, select 'Yes'.*

- ❍ 1 Yes
- ❍ 0 No

**Q9Term** *Show if Lived Outside Canada during pregnancy*

This survey is designed to capture information about immunization for people who gave birth in the last 12 months or those who are at least 36 weeks pregnant. Only persons who have lived in Canada for most of their pregnancy can respond to this survey. Thank you for your time.

Status Code: 502

## Page General Health

### Q61

In general, would you say your mental health is...

- ❍ 1 Excellent
- ❍ 2 Very good
- ❍ 3 Good
- ❍ 4 Fair
- ❍ 5 Poor
- ❑ -8 Prefer not to answer
- ❑ -9 Don’t know

### Q62

In general, would you say your physical health is...

- ❍ 1 Excellent
- ❍ 2 Very good
- ❍ 3 Good
- ❍ 4 Fair
- ❍ 5 Poor
- ❑ -8 Prefer not to answer
- ❑ -9 Don’t know

## Page Pregnancy Information

### Q11

Who was your primary prenatal care provider during your most recent pregnancy?

*This person may or may not be the professional who attended the child’s birth. If this person is both a general practitioner (family doctor) and obstetrician-gynecologist, please select general practitioner (family doctor)*

- ❍ 1 Obstetrician-gynecologist
- ❍ 2 General practitioner (family doctor)
- ❍ 3 Midwife
- ❍ 4 Nurse/nurse practitioner
- ❍ 5 Other, please specify _____
- ❍ 6 Did not receive prenatal care during pregnancy
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q10** *Show if Have prenatal care provider*

(Show if Q7=1) Was the province/territory where you received most of your care during your most recent pregnancy different from where you live now?
(Show if Q7=0) Was the province/territory where you received most of your care during your most recent pregnancy different from where you have lived before leaving Canada?

- ❍ 1 Yes
- ❍ 0 No

**Q10A** *Show if Received Care in Different province while pregnant*

(Show if CATI) Where did most of your pregnancy care with your <<InsertFromQ11>> take place?

- ❍ 1 Newfoundland and Labrador *(Show if not Q8 1 Newfoundland an)*
- ❍ 2 Prince Edward Island *(Show if not Q8 2 Prince Edward I)*
- ❍ 3 Nova Scotia *(Show if not Q8 3 Nova Scotia)*
- ❍ 4 New Brunswick *(Show if not Q8 4 New Brunswick)*
- ❍ 5 Quebec *(Show if not Q8 5 Quebec)*
- ❍ 6 Ontario *(Show if not Q8 6 Ontario)*
- ❍ 7 Manitoba *(Show if not Q8 7 Manitoba)*
- ❍ 8 Saskatchewan *(Show if not Q8 8 Saskatchewan)*
- ❍ 9 Alberta *(Show if not Q8 9 Alberta)*
- ❍ 10 British Columbia *(Show if not Q8 10 British Columbi)*
- ❍ 11 Yukon *(Show if not Q8 11 Yukon)*
- ❍ 12 Northwest Territories *(Show if not Q8 12 Northwest Terri)*
- ❍ 13 Nunavut *(Show if not Q8 13 Nunavut)*

**Q12**

Including your most recent pregnancy, how many times have you been pregnant?

*(Show if Web) Include pregnancies that did not go to full term and stillbirths. (e.g. preterm delivery, miscarriage etc.*

Minimum: 1, Maximum: 50
Number of pregnancies: _____

- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q13**

Including your most recent pregnancy, how many children have you given birth to?

Minimum: 1, Maximum: 50

_____

❑ -8 Prefer not to answer

## Page Knowledge and Beliefs — Vaccines in general

**Q44**

To what extent do you agree or disagree with the following statements?

1. In general, vaccines are safe
2. In general, vaccines are effective
3. New vaccines carry more risks than older vaccines

❍ 1 Strongly agree
❍ 2 Somewhat agree
❍ 3 Somewhat disagree
❍ 4 Strongly disagree
❑ -8 Prefer not to answer
❑ -9 Don't know

## Page Immunization during Pregnancy

**Q14new**

The following questions are about vaccination during your most recent pregnancy.

During your most recent pregnancy, did you receive this vaccine?

1. Pertussis (whooping cough)
2. Flu (influenza)
3. COVID-19

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q15new** *Show if Have prenatal care provider*

Did your primary prenatal care provider advise you to get this vaccine during your pregnancy?

1. Pertussis (whooping cough)
2. Flu (influenza)
3. COVID-19

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q16new1** *Show if Q14new 1 Pertussis whoop*

Were you vaccinated against **pertussis (whooping cough)** by the same primary prenatal care provider who provided you with prenatal care?

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q16new2** *Show if Q14new 2 Flu influenza*

Were you vaccinated against **flu (influenza)** by the same primary prenatal care provider who provided you with prenatal care?

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q16new3** *Show if Q14new 3 COVID 19*

Were you vaccinated against **COVID-19** by the same primary prenatal care provider who provided you with prenatal care?

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q17new** *Show if Got vaccinated against Pertussis OR Flu OR COVID*

Where did you receive this vaccine?

1. Pertussis (whooping cough) *(Show if Q14new 1 Pertussis whoop)*
2. Flu (influenza) *(Show if Q14new 2 Flu influenza)*
3. COVID-19 *(Show if Q14new 3 COVID 19)*

❍ 1 Doctor's office/Nurse practitioner's office
❍ 2 Walk-in medical clinic
❍ 3 Nursing Station
❍ 4 Local public health unit, community health centre or Community Local Service Centre (CLSC)
❍ 5 Hospital
❍ 6 Midwife's office
❍ 7 Pharmacy
❍ 8 Other, please specify _____
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q34** *Show if Got both pertussis and flu at the same location*

Were the pertussis (whooping cough) and flu (influenza) vaccines given to you at the same visit?

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q34a** *Show if Got both COVID and flu at the same location*

Were the COVID-19 and flu (influenza) vaccines given to you at the same visit?

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q19new** *Show if Did not get at least one of the 3 vaccines*

Did you intentionally decide **not to receive** this vaccine during your most recent pregnancy?

*Deciding NOT to receive a vaccine means you were not willing to get a vaccine or chose not to get a vaccine.*

1. Pertussis (whooping cough) *(Show if Q14new 1 Pertussis whoop NO)*
2. Flu (influenza) *(Show if Q14new 2 Flu influenza NO)*
3. COVID-19 *(Show if Q14new 3 COVID 19 NO)*

❍ 1 Yes
❍ 0 No
❑ -8 Prefer not to answer
❑ -9 Don't know

## Page Immunization during Pregnancy - Pertussis

**Q18** *Show if Q14new 1 Pertussis whoop NO*

What were the reasons why you did not receive the **pertussis vaccine** during your most recent pregnancy? Would you say it is because……?

*(Show if Web) Select all that apply*

❑ 1 I did not want to be vaccinated against pertussis during my pregnancy/did not consider it necessary
❑ 2 My primary health care provider advised me against getting the pertussis vaccine
❑ 3 I had concerns about safety/side effects
❑ 4 I had concerns about the effectiveness
❑ 5 Religious, philosophical or cultural reasons
❑ 6 Lack of trust in the government and/or pharmaceutical companies
❑ 7 Opposed to the pertussis vaccine
❑ 8 I have a medical exemption
❑ 9 I wanted to have a natural pregnancy/I wanted to wait until after I have given birth to vaccinate my baby
❑ 10 I've already been vaccinated for pertussis before becoming pregnant
❑ 11 My partner/family/community were not supportive of me being vaccinated for pertussis during my pregnancy
❑ 12 Other reason, please specify: _____
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q20** *Show if NOT Opposed to Pertussis vaccine*

Did any obstacles make it difficult or prevent you from getting the **pertussis (whooping cough)** vaccine during your pregnancy?

*(Show if Web) Select all that apply*

- ❑ 1 No obstacles *(Exclusive)*
- ❑ 2 Live in a remote area (limited access or transportation)
- ❑ 3 I fear needles
- ❑ 4 I had an adverse reaction to a previous vaccine
- ❑ 5 Difficulty to book time off work/school for a vaccine appointment or difficulty finding time to book an appointment
- ❑ 6 I was not aware that the pertussis vaccine was recommended during pregnancy to protect my baby
- ❑ 7 My prenatal health care provider advised me against getting the pertussis vaccine
- ❑ 8 It would have been necessary to make a separate appointment to get the vaccine
- ❑ 9 It would have been necessary to visit a different health care provider to get the vaccine
- ❑ 10 I did not know where to get the pertussis vaccine
- ❑ 11 I did not have access to a culturally safe space to receive vaccinations
- ❑ 12 I had a negative experience with the health care system/healthcare provider
- ❑ 13 My partner/family/community were not supportive of me getting the pertussis vaccine during my pregnancy
- ❑ 14 Other, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q21** *Show if NOT Opposed to Pertussis vaccine*

To what extent were you hesitant to vaccinate against pertussis during your most recent pregnancy?

*(Show if Web) Vaccine hesitancy refers to a delay in acceptance or refusal of vaccines despite availability*

- ❍ 1 Not at all hesitant
- ❍ 2 Not very hesitant
- ❍ 3 Somewhat hesitant
- ❍ 4 Very hesitant
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q22** *Show if Hesitant to pertussis vaccine*

Why were you hesitant to receive the pertussis vaccine during your most recent pregnancy?

*(Show if Web) Select all that apply*

- ❑ 1 I fear needles
- ❑ 2 I was not confident that the pertussis vaccine would have helped protect my baby
- ❑ 3 This vaccine could have been harmful for my baby
- ❑ 4 I had a bad experience with previous vaccinations
- ❑ 5 I did not know where to get reliable information
- ❑ 6 Religious, philosophical or cultural reasons
- ❑ 7 Pertussis is not a severe disease for babies
- ❑ 8 My baby is not at risk of getting pertussis
- ❑ 9 I wanted to discuss pertussis vaccination with my health care practitioner
- ❑ 10 I read negative media about vaccines (e.g., social media, blogs)
- ❑ 11 Other, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

## Page Knowledge and Beliefs — Pertussis Vaccination during Pregnancy

**Q23**

Your responses to the following statements are designed to provide an idea of your thoughts and beliefs about **pertussis (whooping cough)** vaccination during pregnancy.

To what extent do you agree or disagree with the following statements?

1. Receiving the pertussis vaccine during pregnancy is safe for the pregnant individual
2. Pertussis vaccination given to the baby after delivery is safer than pertussis vaccination given during pregnancy
3. Pertussis vaccination during pregnancy is not necessary
4. Pertussis vaccination during pregnancy does not protect the fetus
5. Pertussis is not a severe disease for babies.
6. If a pregnant individual does not get the pertussis vaccine during pregnancy, their baby will be at higher risk of getting pertussis
7. Most pregnant individuals I know chose to be vaccinated for pertussis during their pregnancies
8. Vaccination for pertussis during pregnancy can be harmful for the fetus

- ❍ 1 Strongly agree
- ❍ 2 Somewhat agree
- ❍ 3 Somewhat disagree
- ❍ 4 Strongly disagree
- ❑ -8 Prefer not to answer

❑ -9 Don't know

## Page Immunization during Pregnancy - Flu

**Q28** *Show if Q14new 2 Flu influenza NO*

What were the reasons why you did not receive the **flu vaccine** during your most recent pregnancy? Would you say it is because……?

*(Show if Web) Select all that apply*

❑ 1 I did not want to be vaccinated against the flu during my pregnancy/I did not consider it necessary
❑ 2 My primary health care provider advised me against getting the flu vaccine
❑ 3 I had concerns about the safety/side effects
❑ 4 I had concerns about the effectiveness
❑ 5 Religious, philosophical or cultural reasons
❑ 6 Lack of trust in the government and/or pharmaceutical companies
❑ 7 Opposed to the flu vaccine
❑ 8 I have a medical exemption
❑ 9 I wanted to have a natural pregnancy/I wanted to wait until after I have given birth to vaccinate my baby
❑ 10 I've already been vaccinated for the flu this flu season (i.e. before becoming pregnant)
❑ 11 My partner/family/community were not supportive of me being vaccinated for flu during my pregnancy
❑ 12 Other reason, please specify _____
❑ -8 Prefer not to answer
❑ -9 Don't know

**Q30** *Show if NOT Opposed to Flu Vaccine*

Did any obstacles make it difficult or prevent you from getting the **flu (influenza)** vaccine during your pregnancy?

*(Show if Web) Select all that apply*

❑ 1 No obstacles *(Exclusive)*
❑ 2 Live in a remote area (limited access or transportation)
❑ 3 I fear needles
❑ 4 I had an adverse reaction to a previous vaccine
❑ 5 Difficulty to book time off work/school for a vaccine appointment or difficulty finding time to book an appointment
❑ 6 I was not aware that the flu vaccine was recommended during pregnancy to protect my baby
❑ 7 I was not pregnant during the flu season

- ❑ 8 My prenatal health care provider advised me against getting the flu vaccine
- ❑ 9 It would have been necessary to make a separate appointment to get the vaccine
- ❑ 10 It would have been necessary to visit a different health care provider to get the vaccine
- ❑ 11 I did not know where to get the flu vaccine
- ❑ 12 I did not have access to a culturally safe space to receive vaccinations
- ❑ 13 I had a negative experience with the health care system/healthcare provider
- ❑ 14 My partner/family/community were not supportive of me getting the flu vaccine during my pregnancy
- ❑ 15 Other, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q31** *Show if NOT Opposed to Flu Vaccine*

To what extent were you hesitant to receive the **flu** vaccine during your most recent pregnancy?

*(Show if Web) Vaccine hesitancy refers to a delay in acceptance or refusal of vaccines despite availability.*

- ❍ 1 Not at all hesitant
- ❍ 2 Not very hesitant
- ❍ 3 Somewhat hesitant
- ❍ 4 Very hesitant
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q32** *Show if Hesitant to flu vaccine*

Why were you hesitant to receive the flu vaccine during your most recent pregnancy?

*(Show if Web) Select all that apply*

- ❑ 1 I fear needles
- ❑ 2 I was not confident that the flu vaccine would have helped protect my baby
- ❑ 3 The flu vaccine could have been harmful for my baby
- ❑ 4 The flu vaccine would not have protected me against the flu
- ❑ 5 Having the flu during pregnancy would not have been serious
- ❑ 6 Having the flu during pregnancy would not have posed a risk to my baby/ Influenza is not a severe disease for babies
- ❑ 7 My baby is not at risk of getting the flu
- ❑ 8 I had a bad experience with previous vaccinations
- ❑ 9 I did not know where to get reliable information
- ❑ 10 Religious, philosophical or cultural reasons
- ❑ 11 I wanted to discuss flu vaccination with my health care practitioner
- ❑ 12 I read negative media about vaccines (e.g., social media, blogs, forums)
- ❑ 13 Other, please specify _____

- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q33**

Prior to your most recent pregnancy, how often have you received the flu vaccine?

- ❍ 1 Every flu season
- ❍ 2 Most flu seasons
- ❍ 3 Some flu seasons
- ❍ 4 Never
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

## Page Knowledge and Beliefs — Flu Vaccination during Pregnancy

**Q35**

Your responses to the following statements are designed to provide an idea of your thoughts and beliefs about **flu (influenza)** vaccination during pregnancy.

To what extent do you agree or disagree with the following statements?

1. Receiving the flu vaccine during pregnancy is safe for the pregnant individual
2. Receiving the flu vaccine during pregnancy is safe for the fetus
3. Flu vaccination during pregnancy helps to protect the pregnant individual from getting the flu
4. Flu vaccination during pregnancy helps to prevent negative birth outcomes such as miscarriage or premature birth
5. Most pregnant persons I know get vaccinated for the flu during their pregnancies
6. In general, the flu is not a severe disease
7. The flu vaccine is not effective in preventing the flu
8. Getting the flu during pregnancy can be harmful to the fetus

- ❍ 1 Strongly agree
- ❍ 2 Somewhat agree
- ❍ 3 Somewhat disagree
- ❍ 4 Strongly disagree
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

## Page COVID-19 Vaccination

**Q36** *Show if Q14new 3 COVID 19*

Please indicate when you received a dose of a **COVID-19 vaccine** during your most recent pregnancy :

- ❍ 1 Week 1-4 (approx. 1st month)
- ❍ 2 Week 5-8 (approx. 2nd month)
- ❍ 3 Week 9-13 (approx. 3th month)
- ❍ 4 Week 14-17 (approx. 4th month)
- ❍ 5 Week 18-22 (approx. 5th month)
- ❍ 6 Week 23-27 (approx. 6th month)
- ❍ 7 Week 28-31 (approx. 7th month)
- ❍ 8 Week 32-35 (approx. 8th month)
- ❍ 9 Week 36-42 (approx. 9th month)

**Q36a** *Show if Q14new 3 COVID 19 NO or Don't know or Prefer not to answer*

Did you receive at least one (1) dose of a COVID-19 vaccine **prior to this pregnancy**?

- ❍ 1 Yes
- ❍ 0 No
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q38** *Show if Q14new 3 COVID 19 NO*

What were the reasons why you did not get a **COVID-19 vaccine** during your most recent pregnancy? Would you say it is because…?

*(Show if Web) Select all that apply*

- ❑ 1 I did not want to be vaccinated against COVID-19 during my pregnancy/I did not consider it necessary
- ❑ 2 My primary health care provider advised me against getting the COVID-19 vaccine
- ❑ 3 I had concerns about the safety/side effects
- ❑ 4 I had concerns about the effectiveness
- ❑ 5 Religious, philosophical or cultural reasons
- ❑ 6 Lack of trust in the government and/or pharmaceutical companies
- ❑ 7 Opposed to the COVID-19 vaccine
- ❑ 8 I have a medical exemption
- ❑ 9 I wanted to have a natural pregnancy/I wanted to wait until after I have given birth to vaccinate my baby
- ❑ 10 I've already been vaccinated for COVID-19 before becoming pregnant

- ❑ 11 My partner/family/community were not supportive of me being vaccinated for COVID-19 during my pregnancy
- ❑ 12 Other reason, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q40** *Show if NOT Opposed to COVID Vaccine*

Did any obstacles make it difficult or prevent you from getting a **COVID-19** vaccine during your pregnancy?

*(Show if Web) Select all that apply*

- ❑ 1 No obstacles *(Exclusive)*
- ❑ 2 Live in a remote area (limited access or transportation)
- ❑ 3 I fear needles
- ❑ 4 I had an adverse reaction to a previous vaccine
- ❑ 5 Difficulty booking time off work/school for a vaccine appointment or difficulty finding time to book an appointment
- ❑ 6 I was not aware that the COVID-19 vaccine was recommended during pregnancy to protect myself or my baby
- ❑ 7 My prenatal health care provider advised me against getting the COVID-19 vaccine
- ❑ 8 It would have been necessary to make a separate appointment to get the vaccine
- ❑ 9 It would have been necessary to visit a different health care provider to get the vaccine
- ❑ 10 I did not have access to a culturally safe space to receive vaccinations
- ❑ 11 I had a negative experience with the health care system/healthcare provider
- ❑ 12 My partner/family/community were not supportive of me getting the COVID-19 vaccine during my pregnancy
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q41** *Show if NOT Opposed to COVID Vaccine*

To what extent were you hesitant to receive a **COVID-19** vaccine during your most recent pregnancy?

*(Show if Web) Vaccine hesitancy refers to a delay in acceptance or refusal of vaccines despite availability.*

- ❍ 1 Not at all hesitant
- ❍ 2 Not very hesitant
- ❍ 3 Somewhat hesitant
- ❍ 4 Very hesitant
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q42** *Show if Hesitant to COVID vaccine*

Why were you hesitant to receive a **COVID-19** vaccine during your most recent pregnancy?

*(Show if Web) Select all that apply*

- ❑ 1 I fear needles
- ❑ 2 I am concerned that not enough research on the vaccine has been done in pregnant women
- ❑ 3 I was not confident that the COVID-19 vaccine would have helped protect my baby
- ❑ 4 The COVID-19 vaccine could have been harmful for my baby
- ❑ 5 The COVID-19 vaccine would not have protected me against COVID-19
- ❑ 6 Having COVID-19 during pregnancy would not have been serious to me
- ❑ 7 Having COVID-19 during pregnancy would not have posed a risk to my baby
- ❑ 8 COVID-19 is not a severe disease for babies
- ❑ 9 My baby is not at risk of getting COVID-19
- ❑ 10 I had a bad experience with previous vaccinations
- ❑ 11 I did not know where to get reliable information
- ❑ 12 Religious, philosophical or cultural reasons
- ❑ 13 I wanted to discuss COVID-19 vaccination with my health care practitioner
- ❑ 14 I read negative media about vaccines (e.g., social media, blogs, forums)
- ❑ 15 Other, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

## Page Knowledge and Beliefs — COVID-19 Vaccination during Pregnancy

**Q43**

Your responses to the following statements are designed to provide an idea of your thoughts and beliefs about **COVID-19** vaccination during pregnancy.

1. Receiving the COVID-19 vaccine during pregnancy is safe for the pregnant individual
2. Receiving the COVID-19 vaccine during pregnancy is safe for the fetus

- ❍ 1 Strongly agree
- ❍ 2 Somewhat agree
- ❍ 3 Somewhat disagree
- ❍ 4 Strongly disagree
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

## Page Questions on awareness and acceptability of RSV vaccine

### Q45

How familiar are you with **Respiratory Syncytial Virus or RSV**?

- ❍ 1 I am familiar with RSV and what symptoms it causes
- ❍ 2 I have heard about RSV but am not aware of the symptoms it causes
- ❍ 3 I have not heard of RSV
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

### Q46

If a vaccine was available for **Respiratory Syncytial Virus (RSV)** and recommended during your most recent pregnancy to protect the baby, how likely is it that you would have received it?

*(Show if Web) Respiratory Syncytial Virus or RSV is a common respiratory virus that causes mild cold-like symptoms. Infants and older adults are more likely to develop severe RSV and need hospitalization. Receiving the RSV vaccine during pregnancy can help protect newborns from RSV infection during their first few months of life.*

- ❍ 1 I definitely would have
- ❍ 2 I probably would have
- ❍ 3 I probably **would not** have
- ❍ 4 I definitely **would not** have
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

### Q47

What is your most trusted source of information about vaccines?

- ❍ 1 Health care providers
- ❍ 2 Family/Friends
- ❍ 3 Social media (e.g., X (formerly known as Twitter), Facebook)
- ❍ 4 Scientific publications/journals
- ❍ 5 My local public health/clinic
- ❍ 6 Public Health Agency of Canada/Health Canada
- ❍ 7 Community nursing stations or clinics
- ❍ 8 News/media
- ❍ 9 Provincial/Territorial Ministries of Health
- ❍ 10 International sources (e.g., World Health Organization (WHO), Center for Disease Control and Prevention (CDC))
- ❍ 11 Other, please specify _____
- ❑ -8 Prefer not to answer

❑ -9 Don't know

## Page Sociodemographic Information

### Q48

Now we will ask you to provide some general information about yourself and your household to help us understand background characteristics of pregnant individuals in this survey. Remember that all information you provide is completely anonymous and will be kept confidential.

What is your gender?

*(Show if Web) Gender refers to current gender which may be different from sex assigned at birth and may be different from what is indicated on legal documents.*

❍ 1 Woman
❍ 2 Man
❍ 3 Non-binary
❍ 4 Other, please specify _____
❑ -8 Prefer not to answer
❑ -9 Don't know

### Q49

Do you live in an urban or rural area?

*(Show if Web) An urban area is a city, town or village with a population of 1000 people or more, while a rural area is any other area of lower population.*

❍ 1 Urban
❍ 2 Rural
❑ -8 Prefer not to answer
❑ -9 Don't know

### Q50

How old are you?

Minimum: 16, Maximum: 55

_____

❑ -8 Prefer not to answer

**Q50a** *Show if Refused to provide age*

In which of the following age categories do you belong?

- ❍ 1 less than 18 years old
- ❍ 2 18 to 24
- ❍ 3 25 to 34
- ❍ 4 35 to 44
- ❍ 5 45 or more

**Q51**

What is your racial or ethnic background?

*We recognize this list of racial or ethnic identifiers may not exactly match how you would describe yourself*

*(Show if Web) Select all that apply*

- ❑ 1 Black (African, Afro-Caribbean, African descent)
- ❑ 2 East/Southeast Asian (e.g., Chinese, Korean, Japanese, Taiwanese, Filipino, Vietnamese, Cambodian, Thai, Indonesian, other Southeast Asian descent)
- ❑ 3 Indigenous (First Nations, Métis, Inuit)
- ❑ 4 Latin American
- ❑ 5 Middle Eastern and North African (Arab, Algerian, Egyptian, West Asian descent (e.g. Iranian, Israeli, Lebanese, Turkish, Kurdish, etc.))
- ❑ 6 South Asian descent (e.g., Afghan, Indian, Pakistani, Bangladeshi, Sri Lankan, etc.)
- ❑ 7 White European descent
- ❑ 8 Other, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q52** *Show if is Indigenous*

Which Indigenous group do you identify as?

*(Show if Web) Select all that apply*

- ❑ 1 First Nations (includes status and non-status individuals)
- ❑ 2 Métis
- ❑ 3 Inuit
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q53** *Show if First Nations*

Is your primary residence on reserve?

- ❍ 1 Yes
- ❍ 0 No
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q54** *Show if Inuit*

Is your primary residence in Inuit Nunangat (Inuvialuit, Nunavik, Nunatsiavut, or Nunavut)?

- ❍ 1 Yes
- ❍ 0 No
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q55**

Which group best defines your citizenship status in Canada?

- ❍ 1 Canadian citizen by birth (i.e., born in Canada or born outside Canada with at least one of the parents being Canadian.)
- ❍ 2 Canadian citizen by naturalization (i.e., a person who was not born as a Canadian citizen who was granted citizenship of Canada under the Citizenship Act.)
- ❍ 3 Permanent resident/landed immigrant
- ❍ 4 Other (refugee, hold work or study permit)
- ❍ 5 Temporary resident in Canada (e.g., international student, etc.)
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q56** *Show if Not citizen by birth*

How many years have you been living in Canada?

*(Show if Web) Enter 0 if less than a year.*

Minimum: 0, Maximum: 70

_____

- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q57**

What is the highest level of formal education you have completed?

- ❍ 1 Less than a high school diploma or equivalent
- ❍ 2 High school / Secondary school / École secondaire diploma or equivalent
- ❍ 3 Registered apprenticeship or other trade certificate or diploma
- ❍ 4 College / CEGEP or other non-university certificate or diploma
- ❍ 5 University certificate or diploma below bachelor's level
- ❍ 6 University – bachelor's degree
- ❍ 7 University – post-graduate degree above bachelor's level
- ❍ 8 Other, please specify _____
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q58**

What is your current employment status? Are you…

*If you are currently on maternity leave, respond to this question based on your employment status when not on maternity leave*

- ❍ 1 Working full-time, that is, 35 or more hours per week
- ❍ 2 Working part-time, that is, less than 35 hours per week
- ❍ 3 Not currently working (homemaker, looking for work, studying only, not looking for work, etc.)
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q59**

Please indicate your total household income, before taxes and deductions, for the year ending December 31, 2023.

- ❍ 1 Under $20,000
- ❍ 2 $20,000 to $39,999
- ❍ 3 $40,000 to $59,999
- ❍ 4 $60,000 to $79,999
- ❍ 5 $80,000 to $99,999
- ❍ 6 $100,000 to $149,999
- ❍ 7 $150,000 and above
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q60**

Do you have any of the following medical conditions?

*(Show if Web) Select all that apply*

- ❑ 1 Sickle cell anemia or thalassemia major
- ❑ 2 Neurologic or neurodevelopmental disorders (e.g., epilepsy, Down syndrome etc.)
- ❑ 3 Asthma or other chronic lung disease (e.g., cystic fibrosis, etc.)
- ❑ 4 Chronic liver, heart or kidney disease
- ❑ 5 Diabetes or obesity
- ❑ 6 Immune suppression (e.g., chemotherapy, radiation, steroid use or an organ transplant, HIV/AIDS, etc.)
- ❑ 7 Cancer
- ❑ 8 Other medical condition, please specify _____
- ❑ 9 None of these conditions *(Exclusive)*
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

**Q63**

Do you identify yourself as a person with a disability?

*(Show if Web) A person with a disability is a person who has a long-term or recurring impairment (such as vision, hearing, mobility, flexibility, dexterity, pain, learning, developmental, memory or mental health related) which limits their daily activities inside or outside the home (such as at school, work, or in the community in general).*

- ❍ 1 Yes
- ❍ 0 No
- ❑ -8 Prefer not to answer
- ❑ -9 Don't know

## Page Sociodemographic Information1

**RessourcesGen**

**We sincerely thank you for your time.**

This survey was conducted on behalf of the Public Health Agency of Canada. We hope you've found it interesting.

For more information on vaccination and pregnancy please visit: Vaccination and pregnancy (fact sheet) - Government of Canada (https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/vaccination-pregnancy-fact-sheet.html).

For more information on vaccination coverage in Canada and past survey cycles of the Survey on Vaccination During Pregnancy please visit: Results of the Survey on Vaccination during Pregnancy 2021 - Government of Canada (https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/survey-vaccination-during-pregnancy-2021.html).

For more information regarding pregnancy and infant loss to help support you/your family, please refer to the following resources:

- Alberta Health Services - Resources (https://myhealth.alberta.ca/after-your-stillbirth/resources)
- Health PEI - Pregnancy Loss (https://www.princeedwardisland.ca/en/information/health-pei/pregnancy-loss)
- Pregnancy and Infant Loss Network - Resource Library (https://pailnetwork.sunnybrook.ca/resource-library/)
- BC Women's Hospital & Health Centre (http://www.bcwomens.ca/health-info/pregnancy-parenting/miscarriage)

Status Code: -1

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Contact info: Sue Day at 1-888-883-7094

If you are having stress/emotional difficulties at this time, it might help to talk to someone.
I have a toll free number I could give you if you are interested in talking to someone.

Canada: 1 833 456-4566 or if you prefer to send a SMS to one of their resources text 45645 (from 4pm to midnight) or call 1-800-273-TALK (1-800-273-8255)
US: 1-800-273-8255
Additionally you can call or text 9-8-8 for a safe space to talk, 24 hours a day, every day of the year.