

Immunization Coverage in Grade 9 Students

2016-2025



Provincial Health
Services Authority



BC Centre for Disease Control
Provincial Health Services Authority

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Contact Information

Immunization Programs and Vaccine Preventable Diseases Service

BC Centre for Disease Control, 655 West 12th Avenue, Vancouver, BC Canada V5Z 4R4

vpd.epi@bccdc.ca

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Report is available [here](#).

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We gratefully acknowledge the residents of BC whose data were integrated in the information presented here and all BC health authorities for the contribution of information for this report.

We acknowledge the Title and Rights of BC First Nations who have cared for and nurtured the lands, air and waters for all time, including the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh Úxwumixw (Squamish Nation), and səliłwətaʔ (Tsleil-Waututh Nation) on whose unceded, occupied, and ancestral territory BCCDC is located. As a provincial organization, we also recognize and acknowledge the inherent Title and Rights of BC First Nations whose territories stretch to every inch of the lands colonially known as “British Columbia”.

BC is also home to many First Nations, Métis, and Inuit people from homelands elsewhere in Canada. We recognize the distinct rights of First Nations, Inuit, and Métis people and BCCDC is beginning its work to uphold a [distinctions-based approach](#) to Indigenous data sovereignty and self-determination. All Indigenous Peoples who live in BC have rights to self-determination, health and wellness, and respectful use of their data in alignment with Indigenous data governance principles, including but not limited to [OCAP®](#).

BCCDC is working to address the consequences of settler-colonial policies, which continue to have effects on all Indigenous Peoples living in the province. Consistent with the [Coast Salish teaching of Thee eat \(truth\)](#) gifted to PHSA by Coast Salish Knowledge Keeper Siem Te Ta-in, we recognize that ongoing settler colonial harms and ideology in BC undermine the inherent rights of Indigenous Peoples who live in BC and significantly contributes to health inequities and data gaps. For further information, please see “[In Plain Sight: Addressing Indigenous-specific Racism and Discrimination in B.C. Health Care](#)”. We also recognize the direct impact of colonial policies, which led to violations of patient autonomy and consent, resulting in vaccine hesitancy and mistrust among Indigenous Peoples in Canada:

- [TB vaccine experimentation in Saskatchewan in the 1930s and 1940s](#)
- [Medical experimentation and the roots of COVID-19 vaccine hesitancy among Indigenous Peoples in Canada](#)
- [Vaccine mistrust: A legacy of colonialism](#)

While the data shown in this report represent BC residents, there is no stratification by Indigeneity and as such, the results are not reflective of the situation for First Nations, Métis and Inuit Peoples and communities. First Nations children may also be disproportionately under-represented in the immunization registry data. Please see the [Limitations](#) section of the Data Notes for further information.

Abbreviations

Health Authorities

IH	Interior Health	ISLH	Island Health
FH	Fraser Health	NH	Northern Health
VCH	Vancouver Coastal Health		

Additional abbreviations

BC	British Columbia	HPV	Human papillomavirus
MoE	Ministry of Education	MenC-ACYW	Meningococcal quadrivalent conjugate
HA	Health Authority	Tdap	Tetanus, diphtheria, acellular pertussis
HSDA	Health Service Delivery Area		
MyEdBC	MyEducation BC		
PIR	Provincial Immunization Registry		
PARIS	Primary Access Regional Information System		

For an explanation of BC Health Authorities, please visit this [website](#).

Executive Summary

This report outlines immunization coverage among grade 9 students from 2016 to 2025 for four antigens: tetanus/diphtheria, pertussis, meningococcal quadrivalent, and human papillomavirus (HPV). The tetanus/diphtheria and pertussis assessments are based on completion of a primary series in early childhood and a single booster dose (Tdap) received after age 10 that is primarily offered in grade 9. The meningococcal quadrivalent assessment is based on a single dose of Men-C-ACYW administered in grade 9. Students who did not initiate or complete the HPV series in grade 6 are offered any missed doses in grade 9. In the 2025 report, data reflects coverage for the 2024/2025 school year.

Provincial immunization coverage in 2025 (2024/2025 school year) was similar across assessed antigens, with HPV the highest (series completion with at least two doses: 75.1% in females; 73.0% in males), followed by tetanus/diphtheria (73.8%), pertussis (73.5%), and meningococcal quadrivalent (73.3%). Overall, coverage for tetanus/diphtheria, pertussis, and meningococcal quadrivalent has increased from lows in 2021, when prioritization of the COVID-19 pandemic response affected public health resources available for school-based immunization clinics. Although HPV coverage in 2021 was not impacted to the same extent by the COVID-19 pandemic, coverage has also increased over the past four years. Compared to 2024 (2023/2024 school year), grade 9 coverage in 2025 for meningococcal quadrivalent, pertussis, and tetanus/diphtheria decreased by 0.6-1.0%, while HPV coverage increased by 1.1% in females and 1.2% in males.

Across health authorities, coverage for tetanus/diphtheria, pertussis, and meningococcal quadrivalent in 2025 showed mixed trends relative to 2024. Coverage decreased across all three antigens from 2024 to 2025 in Interior Health (IH) (1.6-2.4% decrease), Fraser Health (FH) (1.9-2.2% decrease), and Island Health (ISLH) (0.8-1.1% decrease). In contrast, coverage increased from 2024 to 2025 across the three antigens in Vancouver Coastal Health (VCH) (2.3-2.6% increase) and Northern Health (NH) (0.2-1.0% increase). Trends in HPV coverage for grade 9 students varied by both health authority and sex. Compared to 2024, HPV coverage in females increased in 2025 in FH, VCH, and ISLH (1.0-3.4% increase), while coverage among IH females decreased by 1.7% and NH females remained stable (0.1% decrease). HPV coverage in males increased across all health authorities in 2025 compared to 2024 (0.1-2.4% increase). On July 31, 2025, the HPV immunization program transitioned from a two-dose program to a one-dose program. While most students in BC during the 2024/2025 school year were immunized under the two-dose program in place during the school year, some regions of IH implemented the one-dose program early due to competing priorities and resource constraints. In grade 9, HPV vaccine is offered as part of a catch-up program for students who did not complete the series in grade 6; therefore, this operational change may have had a small impact on HPV coverage rates in IH as assessed under the two-dose coverage rule in 2025. Considering this, one dose coverage of HPV (HPV series initiation or completion) in the 2024/2025 school year decreased from the prior year by 0.5-1.5% in IH and ISLH females and males, and NH males, and increased by 0.7-2.1% in FH and VCH females and males, and NH females.

Reasons for non-immunization (i.e., documented refusals, exemptions, or contraindications) were assessed for each antigen. Across all agents/antigens, children who were not up-to-date for their immunizations often did not have a documented refusal, exemption, or contraindication for the agent/antigen of interest in the Provincial Immunization Registry (PIR) – i.e., were partially immunized for unknown reasons or unimmunized for unknown reasons. Grade 9 students who are unimmunized or partially immunized for unknown reasons can include children who have missed immunization clinics, those who deferred, or those who have not had their refusal, contraindication, or immunization doses recorded. Provincially, most Grade 9 students in the 2024/2025 school year who were not considered fully immunized for tetanus/diphtheria and pertussis were partially immunized – likely not having received the adolescent dose to be considered up-to-date – for unknown reasons (17.0% for tetanus/diphtheria, 17.6% for pertussis). BC Grade 9 students who were not considered up-to-date for meningococcal quadrivalent conjugate vaccine (one dose in adolescence) and HPV were most commonly unimmunized for unknown reasons (22.5% for meningococcal quadrivalent, 9.3% for HPV among females, and 10.4% for HPV among males).

For the 2024/2025 school year, 2.3% of grade 9 students in BC had no records in the Provincial Immunization Registry (PIR) for the assessed antigens (category: Unimmunized - Unknown: No Immunization Record) (refer to reasons for non-immunization [definitions](#) for further information on inclusion criteria for this measure).

Across health authorities, the proportion of grade 9 students with no records in the PIR for the included antigens ranged from 1.5% in VCH to 2.8% in FH.

Since 2023, international students have been excluded from the main grade 9 analysis as there is a larger proportion of missing immunization records among these students. Coverage rates for international students in 2025 are reported in the [appendix](#). Coverage rates for all antigens in 2025 were lower among international students compared to non-international students, and ranged from 28.3% for HPV in males to 58.7% for meningococcal quadrivalent.

Please refer to the [data notes](#) for additional information and data limitations. Data tables used to create the figures in this report and prior year coverage rates for international students can be downloaded [here](#).

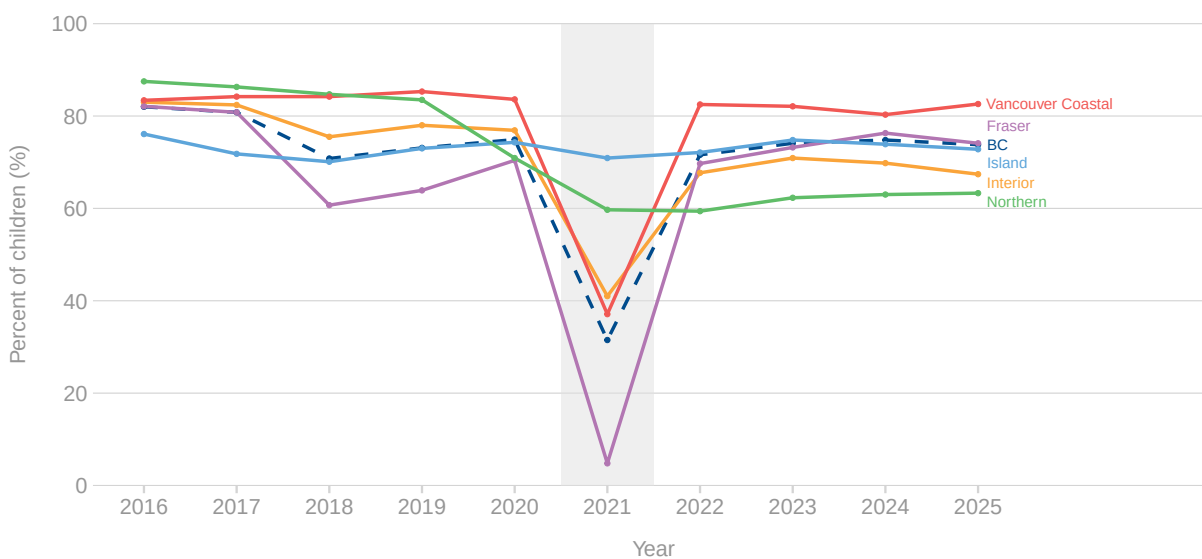
Immunization Coverage by Antigen

In the following coverage by antigen sections, the 'Unknown' subcategories of partially immunized and unimmunized includes all children who do not have a documented refusal, contraindication, or exemption for the antigen of interest and were therefore partially immunized or unimmunized for a reason not recorded.

The 'Unimmunized - Unknown' subcategory is further divided into two categories based on whether any immunization record exists. 'Immunization Record' includes children who have any record(s) (documented immunization, refusal, contraindication, and/or exemption) for other routine childhood immunizations, or who have records for the antigen/agent of interest that were not considered in the other categories (e.g. invalid doses, inactive contraindications, and/or inactive exemptions). 'No Immunization Record' includes children with no documented records for any of the assessed routine childhood immunizations. See reasons for non-immunization [definitions](#) for further information.

Tetanus/Diphtheria

Immunization coverage



Note: The grey shaded area highlights the impact of the COVID-19 pandemic on administration of school-based vaccination for the 2021 grade 9 cohort. See data notes for more information.

Figure 1. Tetanus/Diphtheria coverage by year and health authority, Grade 9 students, British Columbia

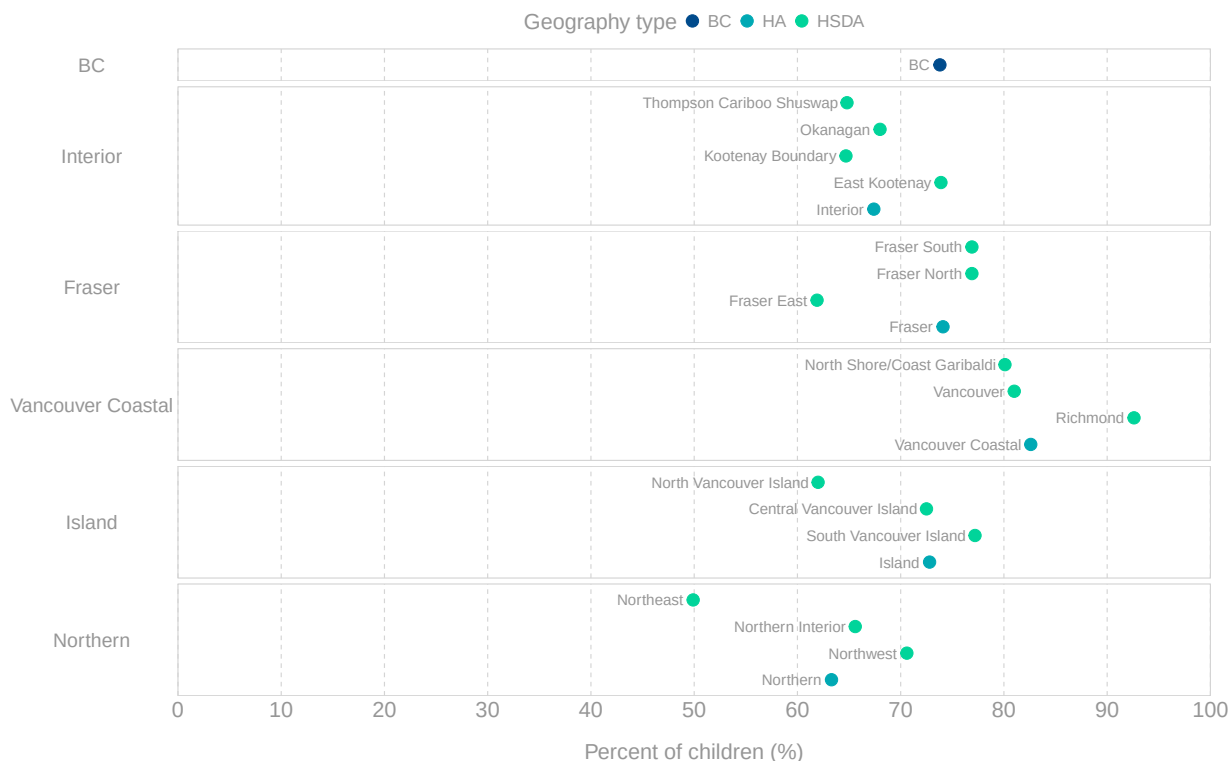


Figure 2. Tetanus/Diphtheria coverage by geographic region, Grade 9 students, British Columbia, 2025



Note: The grey shaded area highlights the impact of the COVID-19 pandemic on administration of school-based vaccination for the 2021 grade 9 cohort. See data notes for more information.

Figure 3. Tetanus/Diphtheria coverage by year and geographic region, Grade 9 students, British Columbia

Reasons for non-immunization

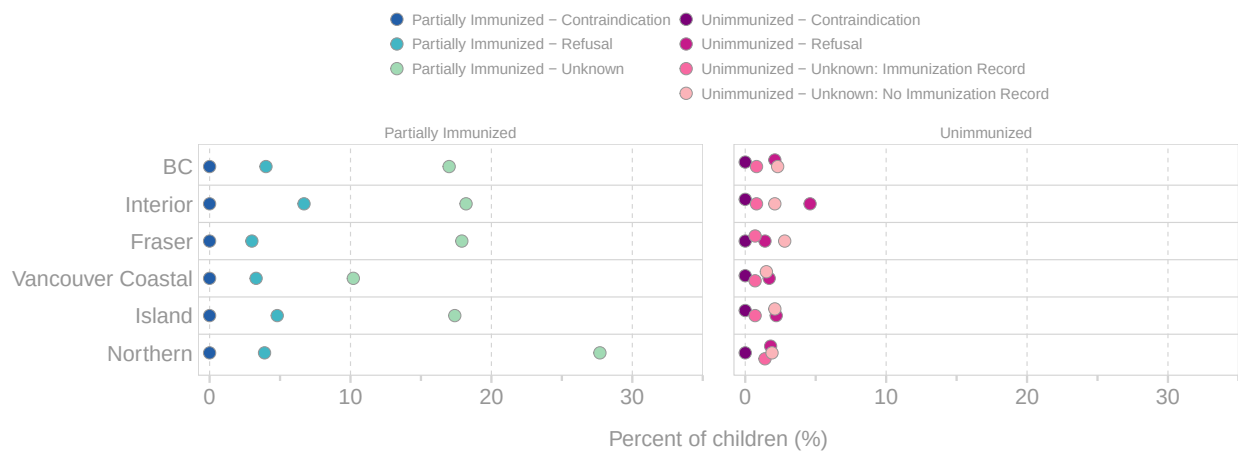


Figure 4. Reasons for non-immunization by health authority, Tetanus/Diphtheria, Grade 9 students, British Columbia, 2025

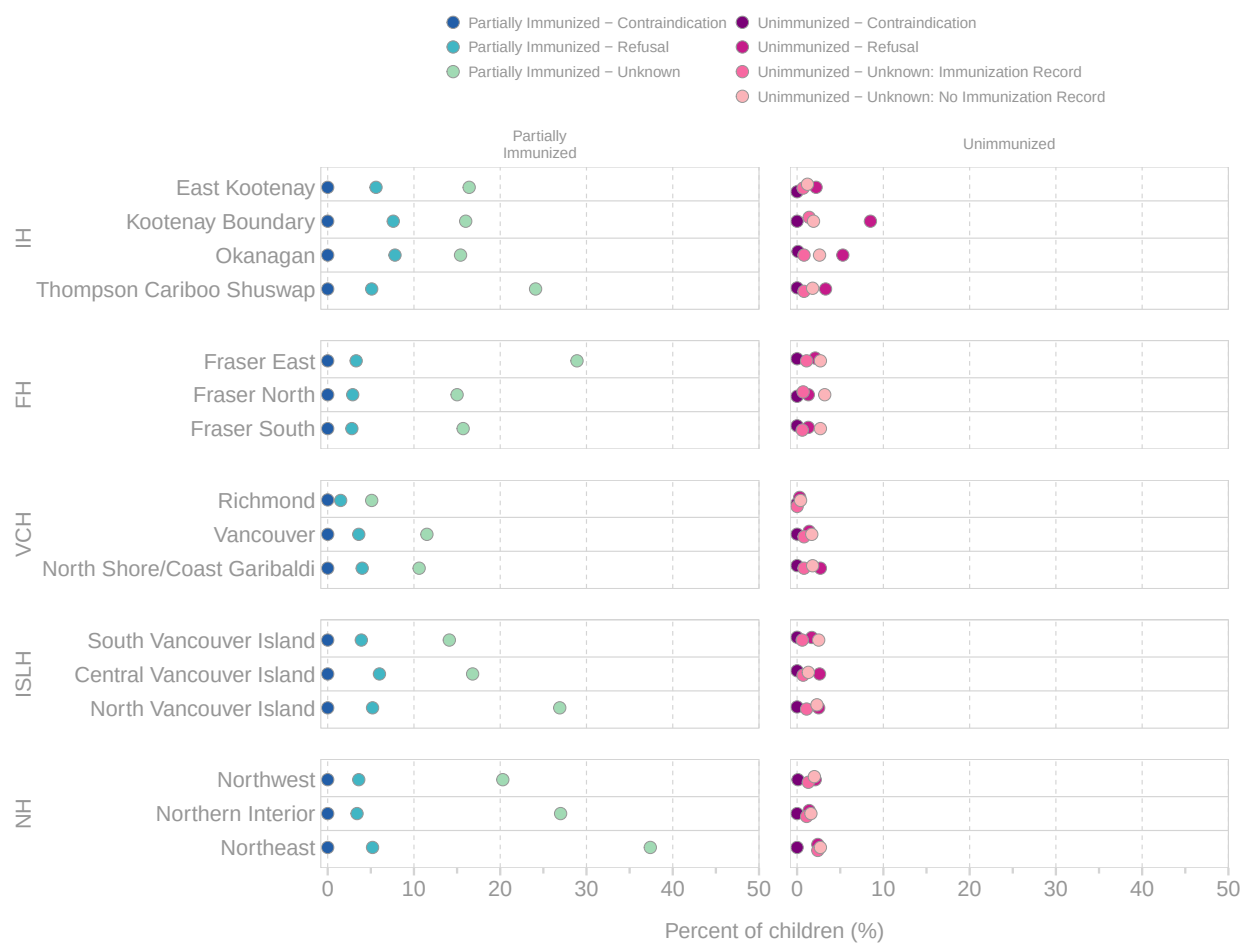
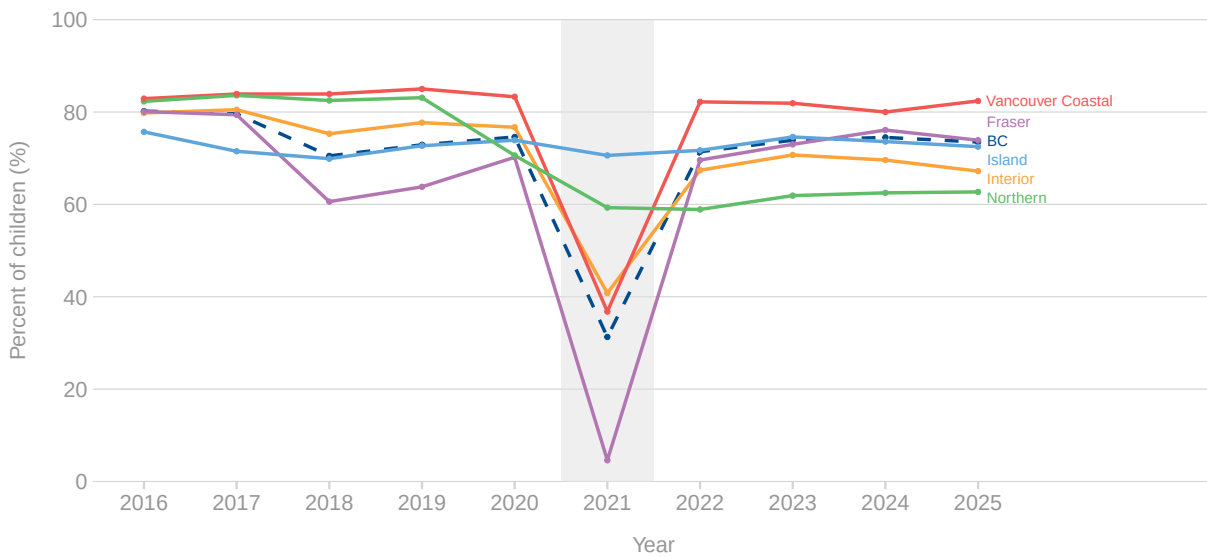


Figure 5. Reasons for non-immunization by health service delivery area, Tetanus/Diphtheria, Grade 9 students, British Columbia, 2025

Pertussis

Immunization coverage



Note: The grey shaded area highlights the impact of the COVID-19 pandemic on administration of school-based vaccination for the 2021 grade 9 cohort. See data notes for more information.

Figure 6. Pertussis coverage by year and health authority, Grade 9 students, British Columbia

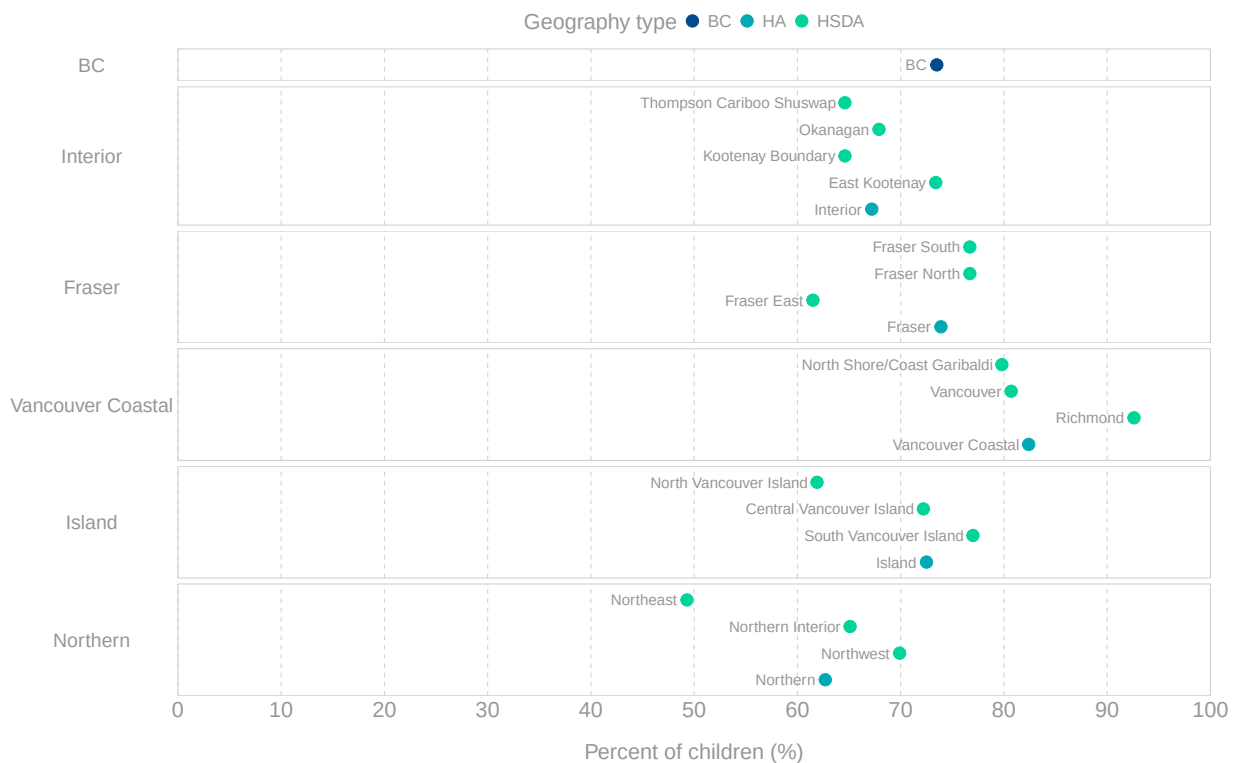


Figure 7. Pertussis coverage by geographic region, Grade 9 students, British Columbia, 2025



Note: The grey shaded area highlights the impact of the COVID-19 pandemic on administration of school-based vaccination for the 2021 grade 9 cohort. See data notes for more information.

Figure 8. Pertussis coverage by year and geographic region, Grade 9 students, British Columbia

Reasons for non-immunization

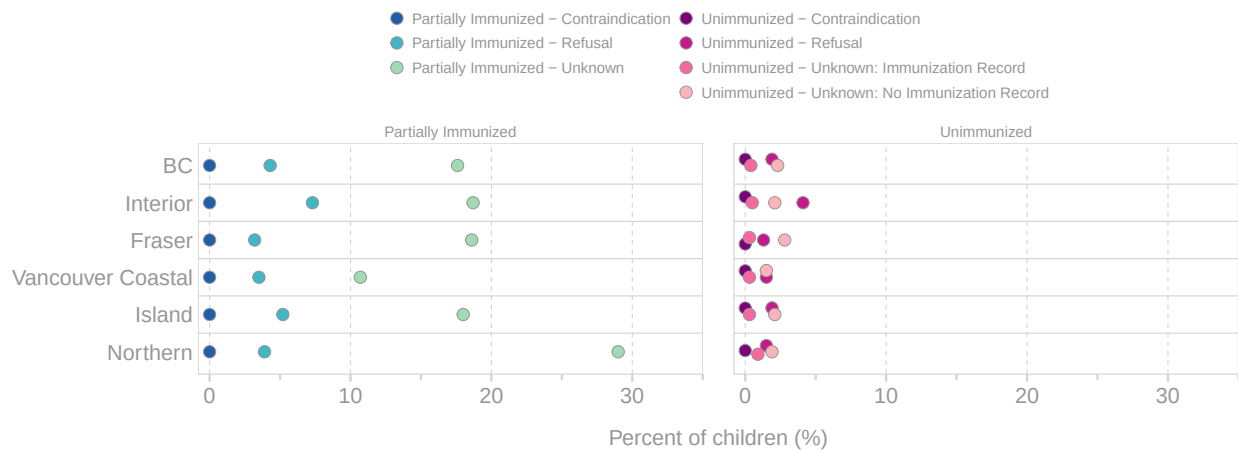


Figure 9. Reasons for non-immunization by health authority, Pertussis, Grade 9 students, British Columbia, 2025

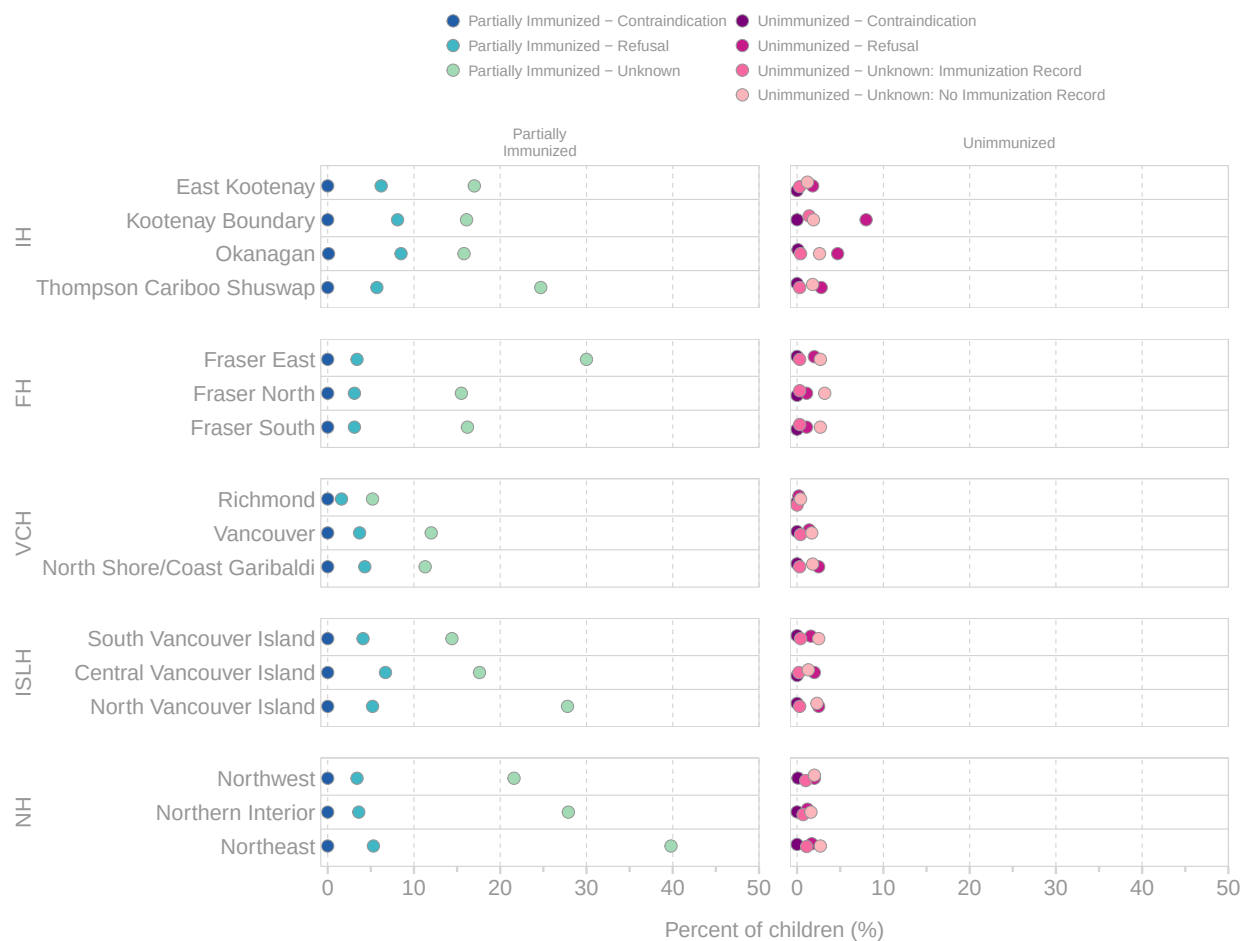
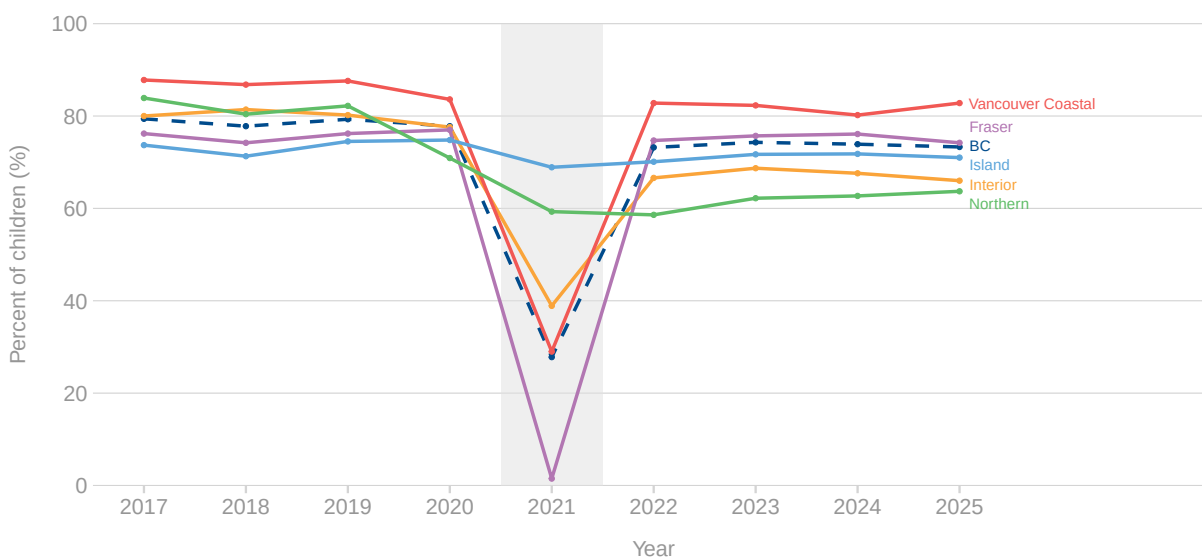


Figure 10. Reasons for non-immunization by health service delivery area, Pertussis, Grade 9 students, British Columbia, 2025

Meningococcal Quadrivalent

Immunization coverage



Note: The grey shaded area highlights the impact of the COVID-19 pandemic on administration of school-based vaccination for the 2021 grade 9 cohort. See data notes for more information.

Figure 11. Meningococcal quadrivalent coverage by year and health authority, Grade 9 students, British Columbia

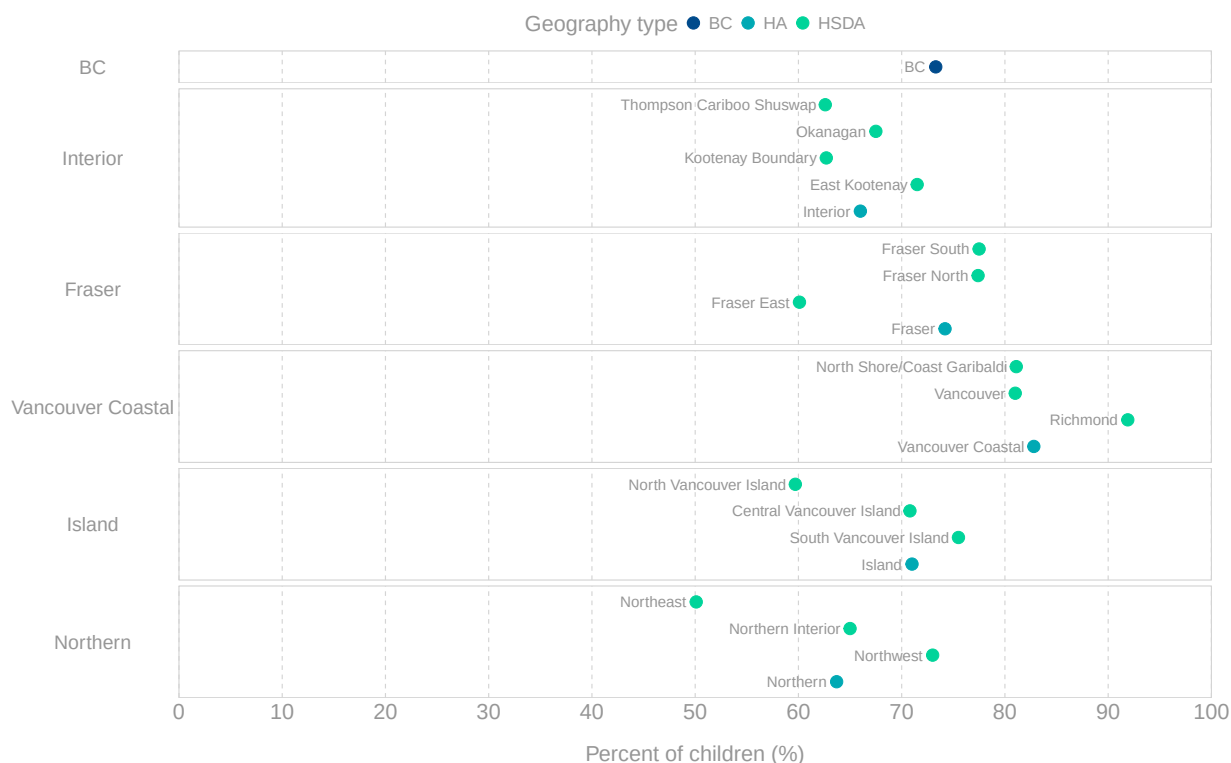


Figure 12. Meningococcal quadrivalent coverage by geographic region, Grade 9 students, British Columbia, 2025



Note: The grey shaded area highlights the impact of the COVID-19 pandemic on administration of school-based vaccination for the 2021 grade 9 cohort. See data notes for more information.

Figure 13. Meningococcal quadrivalent coverage by year and geographic region, Grade 9 students, British Columbia

Reasons for non-immunization

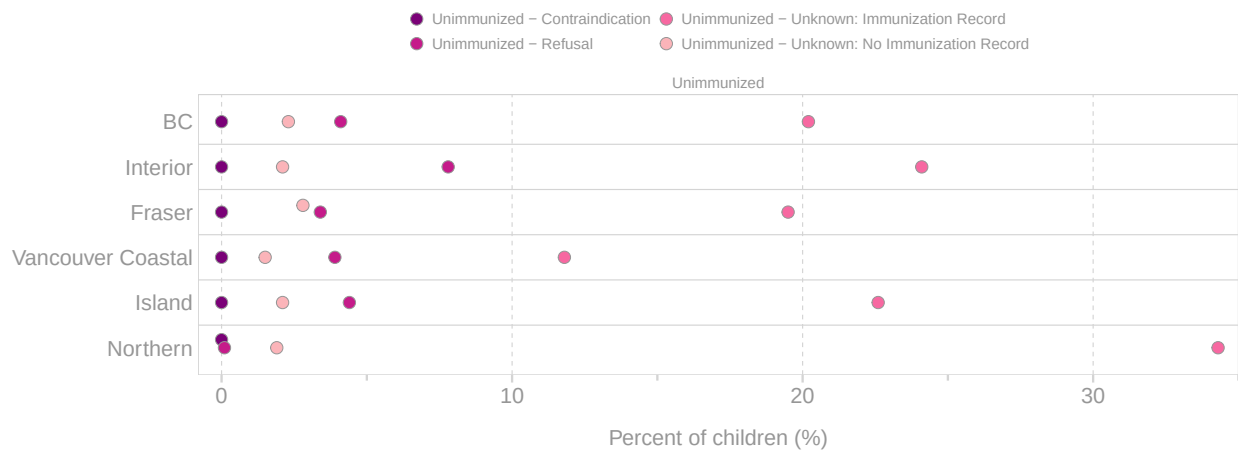


Figure 14. Reasons for non-immunization by health authority, Meningococcal quadrivalent, Grade 9 students, British Columbia, 2025

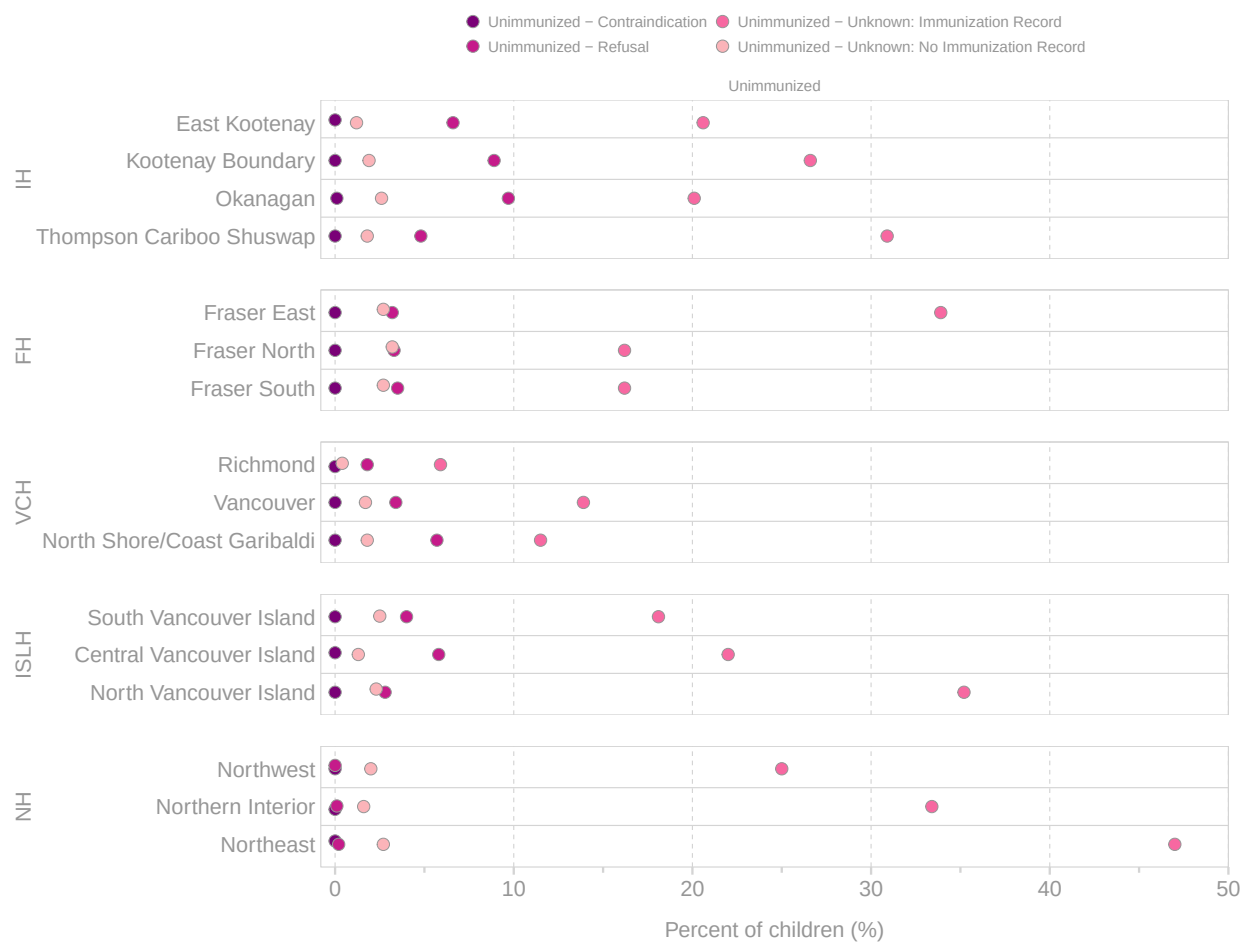
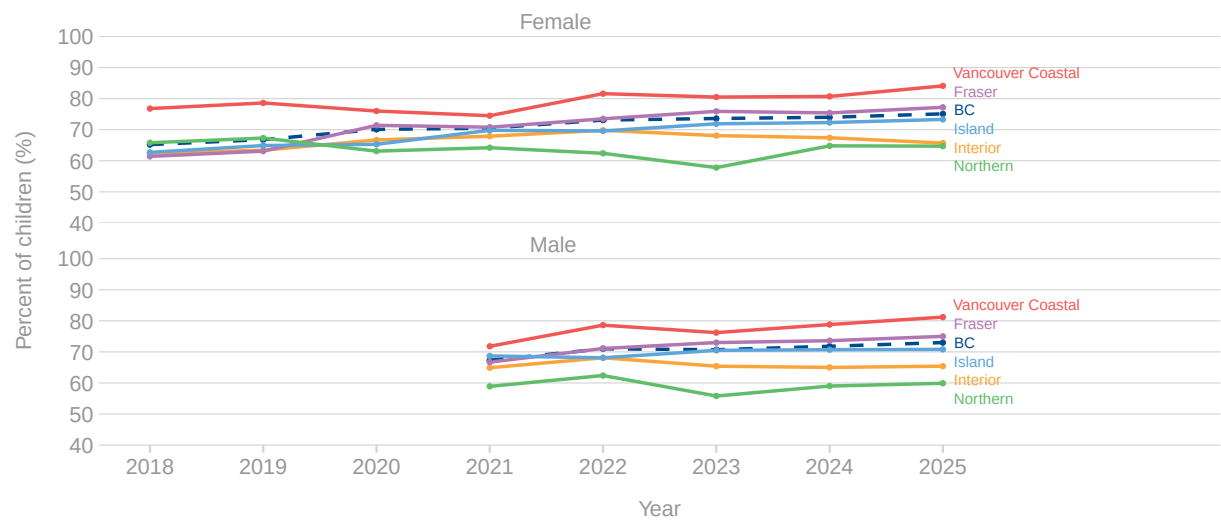


Figure 15. Reasons for non-immunization by health service delivery area, Meningococcal quadrivalent, Grade 9 students, British Columbia, 2025

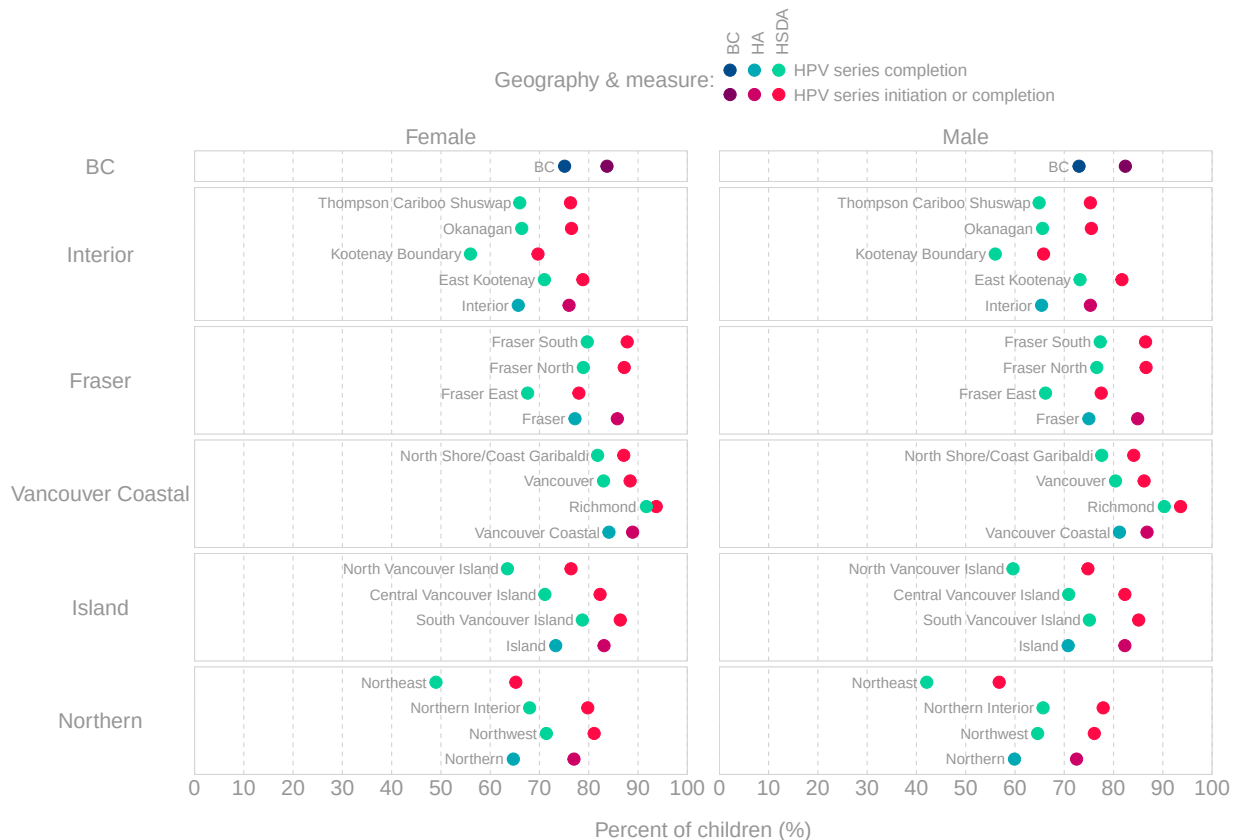
Human Papillomavirus (HPV)

Immunization coverage



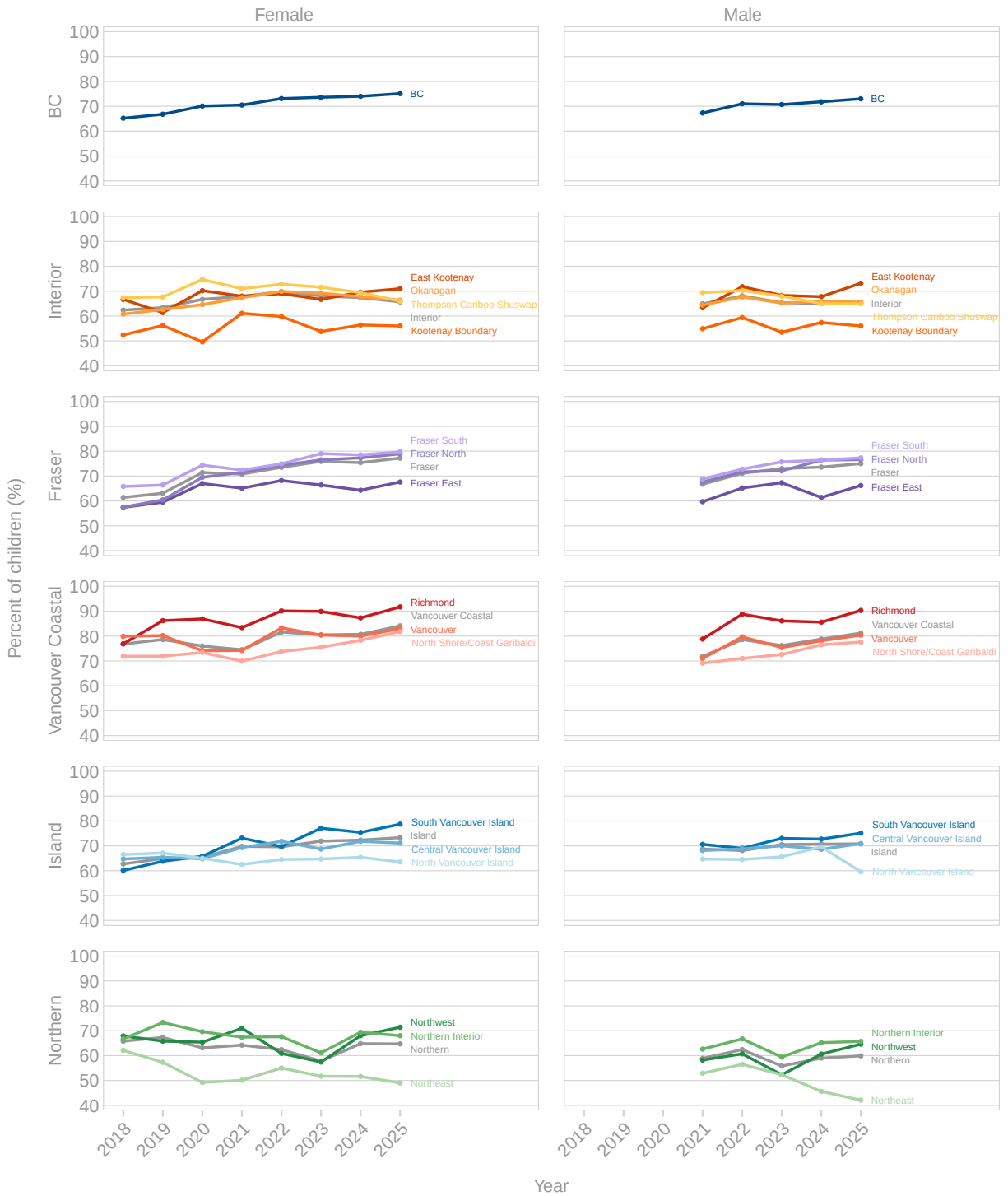
Note: The y-axis for this figure starts at 40% for clearer data visualization. Assessment of HPV coverage in grade 9 males began in 2021. The data presented in this figure do not include individuals where gender is reported as undifferentiated or unknown. See 'Other data notes', pg 28.

Figure 16. HPV coverage by year, health authority and sex, Grade 9 students, British Columbia



Note: The data presented in this figure do not include individuals where gender is reported as undifferentiated or unknown. See 'Other data notes', pg 28.

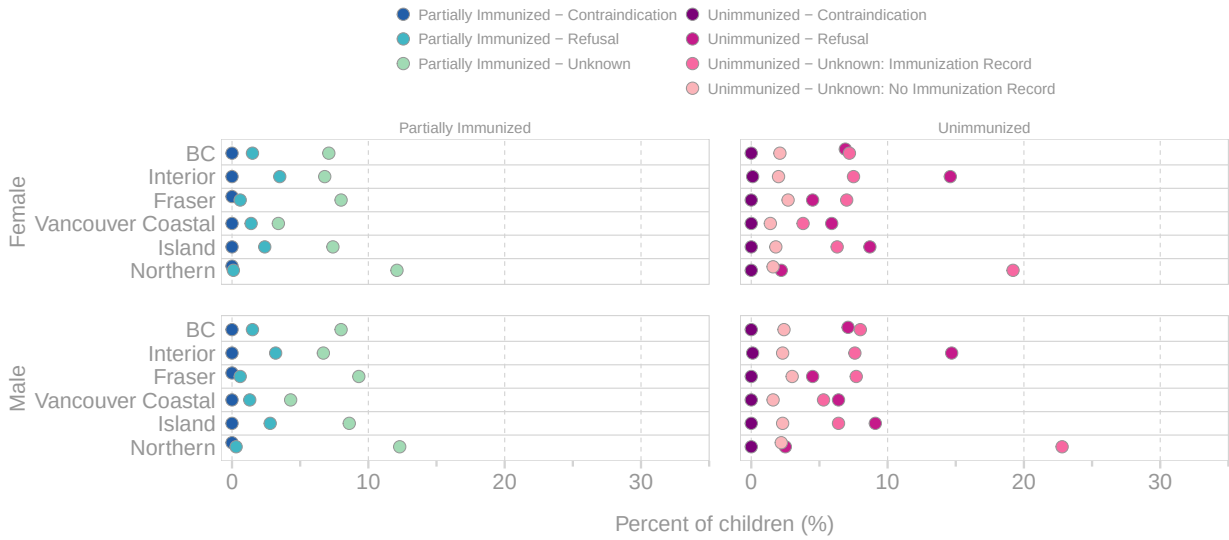
Figure 17. HPV initiation or series completion coverage by geographic region and sex, Grade 9 students, British Columbia, 2025



Note: The y-axis for this figure starts at 40% for clearer data visualization. Assessment of HPV coverage in grade 9 males began in 2021. The data presented in this figure do not include individuals where gender is reported as undifferentiated or unknown. See 'Other data notes', pg 28.

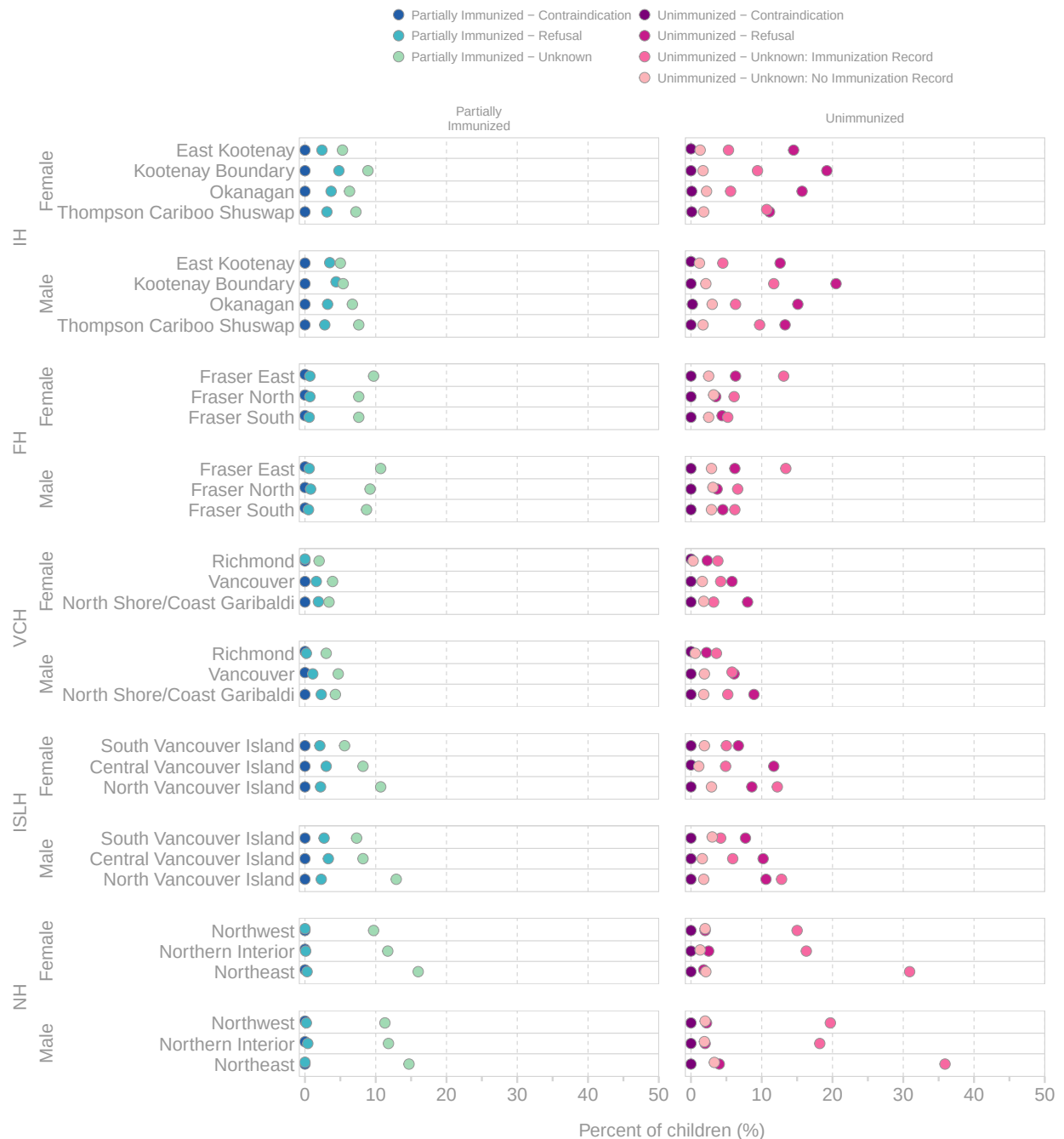
Figure 18. HPV coverage by year, geographic region and sex, Grade 9 students, British Columbia

Reasons for non-immunization



Note: The data presented in this figure do not include individuals where gender is reported as undifferentiated or unknown. See 'Other data notes', pg 28.

Figure 19. Reasons for non-immunization by health authority and sex, HPV, Grade 9 students, British Columbia, 2025



Note: The data presented in this figure do not include individuals where gender is reported as undifferentiated or unknown. See 'Other data notes', pg 28.

Figure 20. Reasons for non-immunization by health service delivery area and sex, HPV, Grade 9 students, British Columbia, 2025

Data Notes

Data Sources

In 2025, coverage estimates for all health authorities are based on records extracted from the Provincial Immunization Registry (PIR) (including records transmitted from regional registry systems) on July 31, 2025.

All doses are recorded in PIR if administered by public health, reported by a parent/guardian to public health (e.g., for children arriving from outside of BC), or if reported by a primary care provider to public health. Additionally, doses administered by pharmacists and entered in PharmaNet are also recorded in PIR. Starting in 2024, coverage estimates are based on immunizations recorded as administered by July 31st of the report year; in report years prior to this, coverage reflected doses recorded as administered up to June 30th of the report year.

Data sources used for each of the health authorities have changed over time as follows:

Health Authority	Year									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
IH	Health Authority Summary Reports*		Pan-Grade*							
FH	Health Authority Summary Reports		Pan-Grade							
VCH	Health Authority Summary Reports								Pan-Grade	
ISLH	Pan-Year/MoE		Pan-Grade							
NH	Health Authority Summary Reports				Pan-Grade					

*In 2017, the Rutland Branch in the Okanagan HSDA used Pan-Grade, while the rest of IH used Health Authority Summary Reports.

Data source	Numerator	Denominator
Pan-Grade	Number of children from the denominator who were up-to-date for age for the specified agent(s) by June 30th of the indicated year, based on PIR immunization records.	Number of students with active records in PIR that indicated they were in grade 9 as of June 30th of the school year of interest. For HPV coverage stratified by gender, only the number of female or male students enrolled in grade 9 as of June 30th was used.
Health Authority Summary Reports	Number of children from the denominator who were up-to-date for age for the specified agent(s) by June 30th of the indicated year, usually based on HA records of immunizations given.	Number of students in grade 9 during the school year of interest, usually based on class lists provided by schools. For HPV coverage stratified by gender, only the number of female or male students enrolled in grade 9 as of June 30th was used.
Pan-Year/MoE	Number of children in the birth cohort for which the majority of children attended grade 9 during the school year of interest with active records in PIR who were up-to-date for age for the specified agent(s).	Number of children in the birth cohort of interest attending grade 9 within the health authority, based on estimates derived from BC MoE enrollment statistics

School and grade information is attached to students' records in the PIR in two ways:

- For schools using either the MyEducation BC (MyEdBC) or the Comprehensive Integrated Management System (CIMS) information systems and who have signed a letter of agreement, information is uploaded from a Ministry of Education (MoE) extract into PIR using a tool called STIX (Student Information Exchange). An analysis conducted in September 2023 found that for the 2022/2023 school year, this process included 95% of students in schools registered with the BC MoE. Health authority staff reconcile the school information against the PIR record when discrepancies occur. Efforts to onboard additional schools to MyEdBC continue.
- For schools using other information systems, health authority staff may manually enter or upload school and grade information. The process of adding enrollment details may not be completed for all health authorities and grades. Most health authorities prioritize immunization coverage assessment milestone grades (kindergarten, grade 6 and grade 9) and a small number of schools may not make their class lists available.

The use of different data sources for numerators and denominators can impact coverage rates and comparability of data across years:

- IH (2013-2014), ISLH (2013-2015), and FH (2013-2017): These regions were unable to routinely ascertain completion of the primary series for tetanus/diphtheria and pertussis. Therefore, the numbers reported represent the proportions of students enrolled in grade 9 as of June 30th who received any tetanus/diphtheria- or pertussis-containing vaccine within the past five years and by June 30th, regardless of whether the primary series was complete.
- ISLH (2014-2017): Due to the use of different data sources for numerator and denominator, ISLH results and the corresponding provincial data for 2014 to 2017, are not directly comparable to previous or later years. Related to implementation of the Panorama public health information system in July 2013, ISLH was unable to reconcile all records of students enrolled in schools. Therefore, coverage was calculated using numerator data from Panorama on active records for those born in 2002 (for 2014), 2003 (for 2015), 2004 (for 2016) and 2005 (for 2017) without the ability to confirm school/grade 9 enrolment; denominators were aggregate data from the BC MoE's data on enrolment in grade 9 to attempt to account for those who have moved out of ISLH. As different data sources were used for the numerators and denominators, immunization coverage rates approaching 100% in ISLH from 2014-2017 are likely over-estimates. This artifact was rectified when the same data source was used for numerators and denominators.
- IH (2017): Due to the difference in methods used to calculate coverage in the Rutland branch in the Okanagan health service delivery area (HSDA) in 2017, the Okanagan and IH results, and corresponding provincial data for 2017 are not directly comparable to previous years.
- All health authorities: Due to changes in data sources used to calculate coverage in IH, ISLH, and FH from 2018, NH from 2020, and VCH from 2024, the corresponding provincial data are not directly comparable to previous years.

Cohort

The grade 9 cohort is defined as students whose records indicated they attended school within the region's service area based on MoE enrolment data as recorded in the online MyEdBC system and on students records obtained from schools not participating in MyEdBC. When using PIR data, students were included in the numerator and denominator if they had a value of 'Grade 9', 'Home Schooled', or 'Secondary ungraded' in the Grade variable, and met the required birth date range. For the 2025 report year, students in 'Grade 9' were included when born between January 1, 2009 and December 31, 2011, while students 'Home Schooled' or in 'Secondary ungraded' were included when born between January 1, 2010 and December 31, 2010.

Coverage reported for any given year reflects children enrolled in grade 9 as of June 30th of that year (e.g., 2025 results are for children enrolled in grade 9 as of June 30, 2025).

Calculations

All analyses were conducted using business rules which calculated ages and time intervals at receipt of immunization. Each dose was counted as a valid dose only if given at or after the earliest eligible age and/or at a time interval greater than or equal to the shortest acceptable interval. Beginning in 2024, coverage reported for any given year reflects doses recorded as administered up to July 31st of that year (e.g., 2025 coverage is for doses administered by July 31, 2025). Prior to 2024, coverage reported reflected doses recorded as administered up to June 30th of that report year.

For HPV, data are shown in the report figures for series completion and series initiation or completion; these categories are not mutually exclusive. In the supplementary data file, data are provided as mutually exclusive categories for series completion and series initiation but not completion. Where stratified by gender, the HPV coverage denominator includes the number of female or male students enrolled in grade 9.

Coverage results by HA and HSDA are reported based on the location of the child's school.

Limitations

All calculations are based on vaccine doses recorded in the PIR or regional clinical systems and school enrollment records maintained by regional health authorities using electronic enrollment records from the MoE, or records received directly from schools. To be considered up-to-date for age, documentation of every dose in the immunization registry (PIR) or a clinical system (PARIS) is required.

Immunization coverage rates presented here are impacted by:

- Children attending independent schools that are not captured within STIX or MyEdBC, including:
 - Independent schools not registered with the MoE
 - Independent schools using MyEdBC without a signed Letter of Agreement
 - Independent schools not using MyEdBC (in some cases, partial enrolment data may still exist in PIR if provided by health authorities)
 - First Nations schools that are federally funded, not within provincial education jurisdiction, and outside the scope of STIX or MyEdBC data collection processes
- Exclusions related to school-based data are driven by enrolment data limitations rather than immunization status. As such, individuals may be excluded from reporting even where immunization records exist in PIR.
- Children whose immunization records are incomplete in the PIR, including:
 - Those immunized in communities or clinical settings where records are not consistently submitted to PIR (e.g., private clinics or providers outside Regional Health Authority Public Health)
 - Children who have recently moved to or out of British Columbia
 - Children immunized outside of BC whose records have not been submitted or reconciled

Definitions

Up-to-date for age

Measure	Definition
Tetanus / Diphtheria	Completed a primary series of tetanus/diphtheria-containing vaccine before ten years of age and received a tetanus/diphtheria booster dose on or after the tenth birthday, or completed a primary series of tetanus/diphtheria-containing vaccine on or after the tenth birthday.
Pertussis	Completed a primary series of pertussis-containing vaccine before ten years of age and received an acellular pertussis booster dose on or after the tenth birthday, or completed a primary series of acellular pertussis-containing vaccine on or after the tenth birthday.
Meningococcal Quadrivalent Conjugate	At least 1 dose of meningococcal quadrivalent conjugate vaccine on or after 11 years and 8 months of age.
HPV (up-to-date/series completion)	If given between 9 to 14 years of age, 2 doses of HPV vaccine (with at least 5 months between doses); if given at age 15+, 3 doses of HPV vaccine (with at least 4 weeks between doses 1 and 2 and at least 12 weeks between doses 2 and 3, and at least 24 weeks between doses 1 and 3).
HPV (series initiation, but not completion)	At least 1 dose of HPV vaccine, but did not complete a 2-dose or 3-dose series.

Reasons for non-immunization

Measure	Definition
Partially Immunized with Contraindication	<i>For agents/antigens requiring more than one dose.</i> For the agent/antigen of interest that has received at least one valid dose and has an active contraindication recorded prior to June 30th.
Partially Immunized with Refusal	<i>For agents/antigens requiring more than one dose.</i> For the agent/antigen of interest, does not meet any of the previous definitions and has received at least one valid dose and has an active or inactive refusal recorded prior to vaccine administration cutoff date.
Partially Immunized - Unknown	<i>For agents/antigens requiring more than one dose.</i> For the agent/antigen of interest, does not meet any of the previous definitions and has received at least one valid dose. Note: These children may have invalid doses, inactive exemptions, or inactive contraindications for the agent/antigen of interest. They may also have valid/invalid doses or active or inactive refusals, exemptions, or contraindications that do not apply to the agent/antigen of interest, or no recorded refusals, exemptions, or contraindications for any agent/antigen.
Unimmunized with Contraindication	For the agent/antigen of interest, does not meet any of the previous definitions and has no recorded valid dose(s) and has an active contraindication recorded prior to June 30th.
Unimmunized with Refusal	For the agent/antigen of interest, does not meet any of the previous definitions and has no recorded valid dose(s) and has an active or inactive refusal recorded prior to vaccine administration cutoff date.
Unimmunized - Unknown	For the agent/antigen of interest, does not meet any of the previous definitions and has no recorded valid dose(s) at any time up to/including the data extract date. Note: These children may have invalid doses or inactive contraindications or exemptions for the agent/antigen of interest. They may also have valid/invalid doses or active/inactive refusals, exemptions, or contraindications that do not apply to the agent/antigen of interest, or no recorded doses, refusals, exemptions, or contraindications for any agent/antigen.
2024 report onwards:	
Unimmunized – Unknown: Immunization Record	Meets the 'Unimmunized - Unknown' definition and has recorded invalid doses or inactive contraindications or exemptions for the agent/antigen of interest or has recorded valid/invalid doses or active or inactive refusals, contraindications or exemptions that do not apply to the agent/antigen of interest at any time up to/including the data extract date. The antigens considered include diphtheria, tetanus, pertussis, polio, hepatitis B, meningococcal quadrivalent, measles, mumps, rubella, varicella, and human papillomavirus.

Unimmunized –
Unknown: No
Immunization Record

Meets the 'Unimmunized - Unknown' definition and has no recorded valid or invalid doses or active or inactive refusals, exemptions, or contraindications for any of diphtheria, tetanus, pertussis, polio, hepatitis B, meningococcal quadrivalent, measles, mumps, rubella, varicella, and human papillomavirus.

Minimum Intervals and Ages Between Doses

Antigen/Agent	Minimum Age or Minimum Time Interval Between Eligible Doses			
	Dose 1 ^A	Dose 2	Dose 3	Dose 4
Tetanus/Diphtheria and Pertussis				
Series started at any age	42 days	28 days	28 days	24 weeks ^B
Dose 1 received after 1 year and dose 3 after 10 years of age	1 year	28 days	24 weeks ^C	
Meningococcal Quadrivalent Conjugate	11 years + 8 months			
HPV				
2 dose schedule (for dose 1 given age 9 to 14)	9 years	150 days		
3 dose schedule (for dose 1 given age 15+)	15 years	28 days	12 weeks ^D	

- A. Dose 1 refers to the earliest age a child can receive the initial dose.
- B. Most children immunized according to BC schedule would have received 6 doses. To be considered up-to-date, the last dose must be received on or after 10 years of age.
- C. To be considered up-to-date, dose 3 must be received on or after 10 years of age.
- D. Dose 3 must be given at least 24 weeks after dose 1.

Other Data Notes

Historical changes to the grade 9 immunization coverage report:

- Starting in 2024, coverage estimates are based on immunization doses recorded as administered by July 31st of the report year. In prior years, coverage estimates reflected doses recorded as administered up to June 30th of the report year.
- Starting in 2023, analyses for grade 9 students were stratified by international student status and immunization coverage results for international students were reported separately in the [appendix](#).
- In 2015, one school in the Kootenay Boundary HSDA did not provide public health with grade 9 class lists. As the children attending this school could not be identified, they could not be included in the immunization coverage analysis. Based on information posted on the BC MoE's website, this school accounted for approximately 0.9% of grade 9 students in Kootenay Boundary.

Immunization program and coverage assessment rule changes:

COVID-19 pandemic impacts:

- In the 2021/2022 school year, school-based clinics were offered in all HAs with some providing catch-ups for grade 10 students to receive the grade 9 milestone vaccines. Ongoing catch-up was offered during subsequent years, as required. Where coverage has not returned to pre-pandemic levels it may reflect ongoing operational impacts of the COVID-19 response (e.g., increases in absenteeism among school children due to illness, lack of staffing resources in remote and rural areas, or competing priorities in public health departments) or changes in data sources between pre- and post-pandemic periods.
- In the 2020/2021 school year, ongoing prioritization of the COVID-19 pandemic response affected some public health resources available for school-based immunization programs. This was most significant in FH, which did not complete any school-based clinics in the 2020/2021 school year. As a result, some coverage rates were lower in 2021 than previous years.
- In March 2020, the COVID-19 pandemic was declared and initially resulted in a province-wide shut down that impacted the provision of public health services including routine immunization services. As a result, some coverage rates were lower in 2021 than previous years, particularly for the doses scheduled to be received in the first few months of the 2020/2021 school year.

Meningococcal quadrivalent vaccine:

- In 2017, the meningococcal quadrivalent conjugate vaccine program for grade 9 students was implemented. Some parents are believed to have refused the vaccine for their children, thinking it was the same as the meningococcal C conjugate vaccine the children received in grade 6.

PIR notes:

- As of December 2024, the flow of supplementary information on the reasons for non-immunization (i.e., exemptions, refusals, and contraindications) for children in Fraser Health (FH) is supported by the interface between the FH clinical system and PIR.
 - Before 2025, incomplete supplementary information on reasons for non-immunization likely resulted in the overestimation of the proportion of partially immunized and unimmunized grade 9 students with unknown reasons for non-immunization and the underestimation of the number of children partially immunized or unimmunized due to refusals or contraindications. Caution should be used in comparing 2025 estimates for the reasons for non-immunization and documented refusals in FH to prior years.
- In spring 2020, PIR was updated to include all clients from the Ministry of Health (MoH) Client Roster. The population is maintained via regular feeds from MoH's Registration and Premium Information Determination (RAPID) system for new clients eligible for Medical Services Plan (MSP) coverage and Enterprise Master Patient Index (EMPI) for births and deaths. This should provide more complete information on the entire BC population in PIR.

- Client records with no or inadequate immunizations recorded may reflect children who have moved out of the province or died. When public health is not aware of these events, they cannot update the Panorama records to reflect the status of these children. Records reported by provinces with reciprocal agreements with MSP for individuals who have moved out of BC and established health insurance in other Canadian jurisdictions are inactivated through the RAPID system process outlined above.
- The gender variable in the PIR contains the following values: Male, Female, Undifferentiated, and Unknown. For the purpose of this report, only stratified coverage for males and females are reported in the HPV figures as the proportion of those in the Undifferentiated and Unknown categories comprise <0.01% of the total population. Those in the Undifferentiated and Unknown categories are included in the figures and supplementary data tables that report coverage values for the total population.
- International students who attend school in BC are classified into two categories in the PIR based on their length of stay: 1) short-stay (<6 months) and 2) long-stay (≥6 months). HAs attempt to collect immunization records for all long-stay students in the province, however the length of stay is unknown for the majority of international students in the registry. Thus, immunization records may be incomplete for international students and coverage is likely underestimated for this population. Because of this, coverage for international students is reported on separately in the [appendix](#).

Appendix

International Student Immunization Coverage

Table A1. Percent of grade 9 international students up-to-date for diphtheria/tetanus, pertussis, and meningococcal quadrivalent, 2025.

Geography	Population	Tetanus/Diphtheria		Pertussis		Meningococcal quadrivalent	
		Count	%	Count	%	Count	%
BC	4,147	2,029	48.9	1,995	48.1	2,435	58.7
Interior	299	147	49.2	144	48.2	170	56.9
East Kootenay	22	9	40.9	8	36.4	10	45.5
Kootenay Boundary	17	10	58.8	9	52.9	10	58.8
Okanagan	171	90	52.6	89	52.0	97	56.7
Thompson Cariboo Shuswap	89	38	42.7	38	42.7	53	59.6
Fraser	2,176	947	43.5	930	42.7	1,263	58.0
Fraser East	219	41	18.7	40	18.3	74	33.8
Fraser North	767	381	49.7	373	48.6	482	62.8
Fraser South	1,190	525	44.1	517	43.4	707	59.4
Vancouver Coastal	1,054	714	67.7	704	66.8	755	71.6
Richmond	236	189	80.1	189	80.1	190	80.5
Vancouver	569	361	63.4	356	62.6	399	70.1
North Shore/Coast Garibaldi	249	164	65.9	159	63.9	166	66.7
Island	545	194	35.6	190	34.9	204	37.4
South Vancouver Island	341	133	39.0	130	38.1	132	38.7
Central Vancouver Island	117	44	37.6	43	36.8	53	45.3
North Vancouver Island	87	17	19.5	17	19.5	19	21.8
Northern	73	27	37.0	27	37.0	43	58.9
Northwest	12	1	8.3	1	8.3	7	58.3
Northern Interior	36	17	47.2	17	47.2	21	58.3
Northeast	25	9	36.0	9	36.0	15	60.0

Table A2. Percent of grade 9 international students who have completed or initiated a HPV series, by sex, 2025.

Geography	Female					Male				
	Population	HPV series completion		HPV series initiation but not completion		Population	HPV series completion		HPV series initiation but not completion	
		Count	%	Count	%		Count	%	Count	%
BC	2,102	772	36.7	551	26.2	2,044	578	28.3	675	33.0
Interior	144	41	28.5	45	31.2	155	30	19.4	55	35.5
East Kootenay	10	3	30.0	3	30.0	12	1	8.3	4	33.3
Kootenay Boundary	6	2	33.3	1	16.7	11	3	27.3	4	36.4
Okanagan	81	22	27.2	26	32.1	90	21	23.3	28	31.1
Thompson Cariboo Shuswap	47	14	29.8	15	31.9	42	5	11.9	19	45.2
Fraser	1,072	316	29.5	348	32.5	1,104	213	19.3	462	41.8
Fraser East	98	15	15.3	18	18.4	121	20	16.5	28	23.1
Fraser North	371	129	34.8	131	35.3	396	67	16.9	186	47.0
Fraser South	603	172	28.5	199	33.0	587	126	21.5	248	42.2
Vancouver Coastal	552	333	60.3	86	15.6	501	283	56.5	96	19.2
Richmond	115	79	68.7	14	12.2	121	84	69.4	16	13.2
Vancouver	298	179	60.1	48	16.1	271	141	52.0	54	19.9
North Shore/Coast Garibaldi	139	75	54.0	24	17.3	109	58	53.2	26	23.9
Island	288	71	24.7	55	19.1	257	43	16.7	56	21.8
South Vancouver Island	182	50	27.5	34	18.7	159	31	19.5	33	20.8
Central Vancouver Island	61	18	29.5	15	24.6	56	8	14.3	17	30.4
North Vancouver Island	45	3	6.7	6	13.3	42	4	9.5	6	14.3
Northern	46	11	23.9	17	37.0	27	9	33.3	6	22.2
Northwest	7	1	14.3	3	42.9	5	1	20.0	1	20.0
Northern Interior	22	6	27.3	8	36.4	14	6	42.9	2	14.3
Northeast	17	4	23.5	6	35.3	8	2	25.0	3	37.5