

EARLY CHILDHOOD AND SCHOOL AGE IMMUNIZATION COVERAGE REPORT 2023

Northern Health



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Acknowledgement

We would like to thank all the dedicated people who contributed to this report, including those who collected and provided the data, reviewed the drafts, and provided input throughout the development of this report.

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Early Childhood and School Age Immunization Coverage Report

Purpose

This report provides a focus on routine immunizations that are recommended for children in BC who are aged two and 7 and who are in Grades 6 and 9. Also included is a snapshot of immunization coverage estimates by grade and antigen for school-aged children for the most recent school year. This report does not include Covid-19 vaccines or Influenza vaccines as they are not part of the standard schedule (see [Appendix](#) for details).

Background

Immunization Coverage

Immunization coverage refers to the proportion of a population that is appropriately immunized against a vaccine preventable disease (VPD) at a point in time. Achieving and maintaining high immunization coverage is essential for the effective prevention and control of VPDs. Northern Health's goal is to achieve an immunization coverage rate of 90% or greater for all vaccines.

For Northern Health staff there is additional information found in an internal dashboard that can be found [here](#).

Note: Health Branch refers to a geographic area as defined by Panorama. It does not refer to a community but rather a catchment area. Use the [Branch Locator Tool](#) to see this geography.

Note: Coverage by age reported for any given year reflects uptake among children who turned 2 years old during that calendar year (i.e., 2020 results are for children born in 2018). Grade coverage reports are based on school enrollment information provided by Ministry of Education or collected by local teams.

Note: Immunization Refusals/Exemptions are not currently recorded in Panorama on a consistent basis for any age group. Use caution when interpreting these status groups.

Note: Northern Health Authority (NHA) sends immunization records from Centralized Data Repository (CeDaR) every 15 minutes to Panorama. These records need to pass quality review checks. Approximately 18% are in Public Health Information Exchange (PHIX), awaiting reconciliation due to data entry issues. Communities' that do not enter data immunizations into CMOIS (e.g. Vanderhoof) are entered manually by Health Information Management. There is currently a two-month delay on these immunization records into Panorama.

Highlights

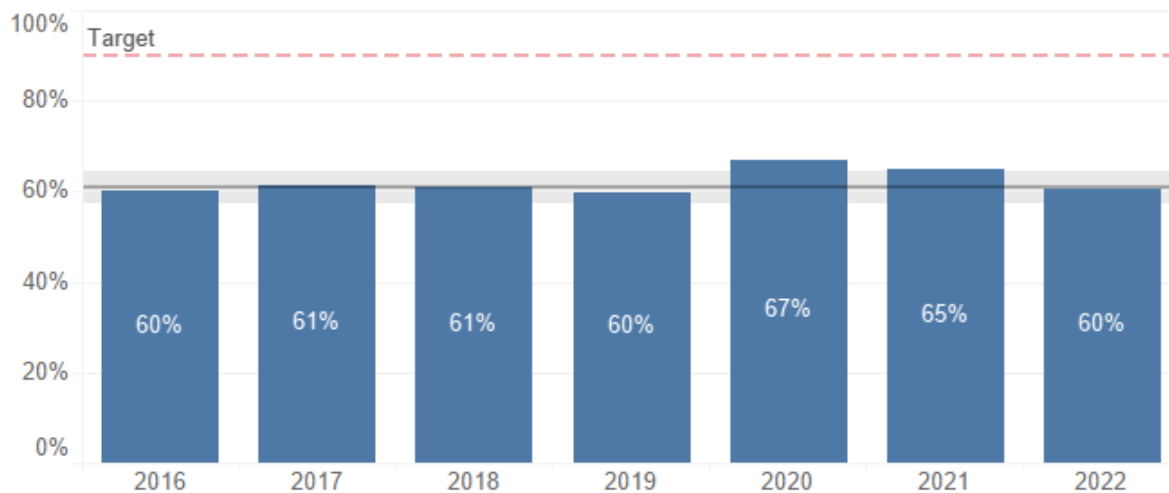
- In Northern Health, two-year-olds who are considered up to date for age is an estimated 60%
 - Northeast: 53%
 - Northern Interior: 67%
 - Northwest: 59%
- In Northern Health, seven-year-olds who are considered up to date for age is an estimated 64%
 - Northeast: 53%
 - Northern Interior: 71%
 - Northwest: 62%
- Grade 6, Hepatitis B and Varicella coverage rates have remained stable at approximately 85%; HPV coverage has continued to increase since the 2019/20 school year cohort to 50% coverage in the 2022/23 school year cohort. This trend is found in all HSDAs, except the Northern Interior where HPV coverage has remained stable at approximately 52%.
 - The Northwest has the highest rate of HPV coverage at 58%
 - The Northeast has had the greatest increase in HPV coverage in this school year, with a 137% increase compared to 2021/22 school year.
- Grade 9, meningococcal and tetanus coverage rate were consistent with the five-year average of 62%.
 - The Northeast is continuing the upward trend for both meningococcal and tetanus since the 2020-21 school year.

Two-year-old Coverage

Northern Health

The immunization coverage for Northern Health two-year-olds has remained relatively stable since 2016; from 2016 to 2021 the average up-to-date immunization coverage estimate for two-year-olds was 61% and ranged from 57% to 65%. (Figure 1). Northern Health saw an increase in immunization coverage during the pandemic years (2020 and 2021); however, the coverage rate has returned to pre pandemic years at an estimated 60% of two-year-olds up to date for age. When examining other status, the up-to-date minus booster the immunization coverage estimates increase to 71% coverage (Table 1).

Figure 1: Percentage of two-year-olds with immunizations up to date for age with median line, Northern Health, 2016 – 2022



When examining coverage rate by antigen (Table 2), please note there are vaccinations with several antigens inside. These vaccines include D/T/aP/IPV which includes vaccines for Diphtheria, Tetanus, Pertussis and Polio; D/T/aP/IPV/Hib which includes vaccines for Diphtheria, Tetanus, Pertussis, Polio, Haemophilus influenzae type b; and MMR which includes vaccines for Measles, Mumps and Rubella. The coverage rates by antigen vary, from a low of 62% for D/T/aP/IPV to a high of 78% for Hepatitis B.

Table 1. Percentage of two-year-olds by Immunization Status, Northern Health, 2016 – 2022

	2016	2017	2018	2019	2020	2021	2022
Up-to-date for age	60%	61%	61%	60%	67%	65%	60%
Up-to-date minus the booster	66%	69%	70%	66%	75%	74%	71%
Refusal to all	1%	2%	1%	1%	0%	0%	0%
Refusals - at least one	12%	9%	7%	6%	4%	0%	3%
No Immunizations Recorded	13%	13%	11%	14%	11%	11%	13%

Table 2. Coverage Rate for two-year-olds by Select Antigens, Northern Health, 2016 – 2022

	2016	2017	2018	2019	2020	2021	2022
D/T/aP/IPV	68%	68%	66%	64%	70%	68%	62%
D/T/aP/IPV/Hib	68%	68%	66%	64%	70%	68%	62%
Hep B	75%	76%	79%	72%	81%	81%	78%
Hib	72%	72%	70%	73%	74%	72%	66%
Meningococcal C conjugate	76%	77%	77%	76%	81%	79%	75%
MMR	78%	78%	78%	77%	81%	79%	75%
Pneumococcal conjugate	75%	76%	75%	70%	78%	77%	74%
Polio	71%	71%	69%	69%	72%	70%	65%
Rotavirus	67%	73%	76%	68%	68%	70%	68%
Varicella	75%	75%	76%	75%	80%	77%	74%

HSDA Breakdown

The immunization coverage for two-year-olds in each of the Health Service Delivery Areas (HSDA) has remained relatively stable since 2016; from 2016 to 2021 (Figure 2). Each HSDA saw an increase in immunization coverage during the pandemic years (2020 and 2021); however, the coverage rate has returned to pre-pandemic years. The Northern Interior (NI) has the highest coverage rate of 67%, followed by the Northwest (NW) with 59% and the Northeast (NE) has the lowest coverage rate of 53%. When examining the status, the up-to-date minus booster the immunization coverage estimates increase to the NI coverage rate is 76%, NW coverage rate is 73%, and the NE coverage rate is 62% (Table 3).

Figure 2. Percentage of two-year-olds with immunizations up to date for age with median line by HSDA, 2016 – 2022

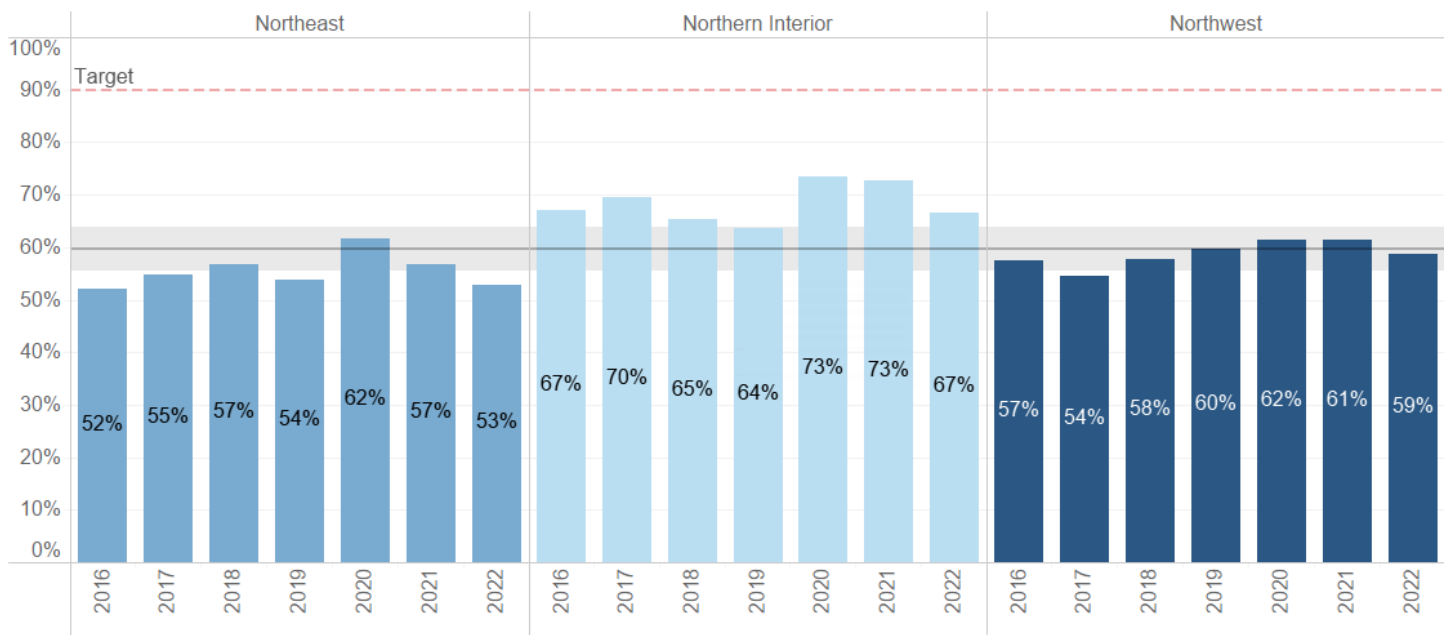


Table 3. Percentage of two-year-olds by Immunization Status by HSDA, 2016 – 2022

		2016	2017	2018	2019	2020	2021	2022
Northeast	Up-to-date for age	52%	55%	57%	54%	62%	57%	53%
	Up-to-date minus the booster	58%	63%	65%	61%	70%	67%	62%
	Refusal to all	2%	3%	1%	1%	0%	0%	0%
	Refusals - at least one	17%	11%	11%	9%	6%	0%	6%
	No Immunizations Recorded	19%	18%	16%	18%	15%	17%	21%
Northern Interior	Up-to-date for age	67%	70%	65%	64%	73%	73%	67%
	Up-to-date minus the booster	73%	76%	74%	69%	80%	80%	76%
	Refusal to all	1%	2%	1%	1%	0%	0%	0%
	Refusals - at least one	10%	8%	6%	4%	3%	0%	2%
	No Immunizations Recorded	9%	8%	8%	12%	7%	8%	9%
Northwest	Up-to-date for age	57%	54%	58%	60%	62%	61%	59%
	Up-to-date minus the booster	65%	63%	68%	66%	71%	72%	73%
	Refusal to all	1%	1%	2%	0%	0%	0%	0%
	Refusals - at least one	9%	7%	6%	4%	4%	0%	2%
	No Immunizations Recorded	13%	16%	13%	13%	13%	11%	11%

When examining coverage rate by antigen (Table 4), there are antigens that represent several vaccines. These include D/T/aP/IPV which includes vaccines for Diphtheria, Tetanus, Pertussis and Polio; D/T/aP/IPV/Hib which includes vaccines for Diphtheria, Tetanus, Pertussis, Polio, Haemophilus influenzae type b; and MMR which includes vaccines for Measles, Mumps and Rubella. The coverage rates by antigen can vary widely, with Hepatitis B coverage being the antigen that has the highest rate for all HSDAs.

Table 4. Coverage Rate for two-year-olds by Select Antigens and HSDA, from 2016 – 2022

		2016	2017	2018	2019	2020	2021	2022
Northeast	D/T/aP/IPV	60%	61%	63%	58%	65%	59%	55%
	D/T/aP/IPV/Hib	60%	61%	63%	58%	65%	59%	55%
	Hep B	68%	70%	74%	68%	76%	75%	71%
	Hib	64%	64%	66%	67%	69%	63%	58%
	Meningococcal C conjugate	69%	71%	73%	73%	75%	72%	67%
	MMR	70%	71%	73%	74%	76%	72%	67%
	Pneumococcal conjugate	67%	69%	71%	66%	74%	70%	65%
	Polio	62%	64%	65%	64%	67%	62%	57%
	Rotavirus	56%	67%	69%	61%	60%	65%	60%
	Varicella	66%	69%	70%	71%	74%	70%	65%
Northern Interior	D/T/aP/IPV	75%	76%	70%	67%	76%	75%	69%
	D/T/aP/IPV/Hib	75%	76%	70%	67%	76%	75%	69%
	Hep B	80%	83%	83%	73%	85%	85%	83%
	Hib	79%	80%	73%	77%	81%	78%	72%
	Meningococcal C conjugate	82%	84%	81%	77%	87%	84%	80%
	MMR	84%	85%	81%	78%	87%	84%	80%
	Pneumococcal conjugate	81%	83%	79%	72%	83%	82%	78%
	Polio	77%	79%	72%	72%	79%	77%	71%
	Rotavirus	74%	80%	82%	72%	74%	78%	76%
	Varicella	81%	82%	80%	76%	86%	84%	79%
Northwest	D/T/aP/IPV	65%	61%	64%	63%	65%	64%	60%
	D/T/aP/IPV/Hib	65%	61%	64%	63%	65%	64%	60%
	Hep B	74%	70%	77%	73%	79%	80%	80%
	Hib	70%	67%	68%	74%	69%	70%	66%
	Meningococcal C conjugate	74%	74%	76%	78%	78%	77%	78%
	MMR	77%	75%	77%	79%	78%	78%	77%
	Pneumococcal conjugate	73%	72%	74%	72%	75%	75%	76%
	Polio	68%	65%	67%	69%	68%	67%	64%
	Rotavirus	68%	67%	74%	69%	66%	63%	64%
	Varicella	73%	71%	75%	76%	76%	75%	77%

Seven-year-old coverage

Northern Health

The immunization coverage for Northern Health 7-year-olds has remained relatively stable since 2016; from 2016 to 2021 the average up-to-date immunization coverage estimate for 7-year-olds was 64% and ranged from 62% to 67% (Figure 3). Unlike the two-year-old there was no significant change in immunization coverage during the pandemic years (2020 and 2021). When examining the different statuses, 13% of 7-year-olds had no recorded immunization in the immunization registry (Table 5).

Figure 3: Percentage of 7-year-olds with immunizations up to date for age with median line, Northern Health, 2016 – 2022

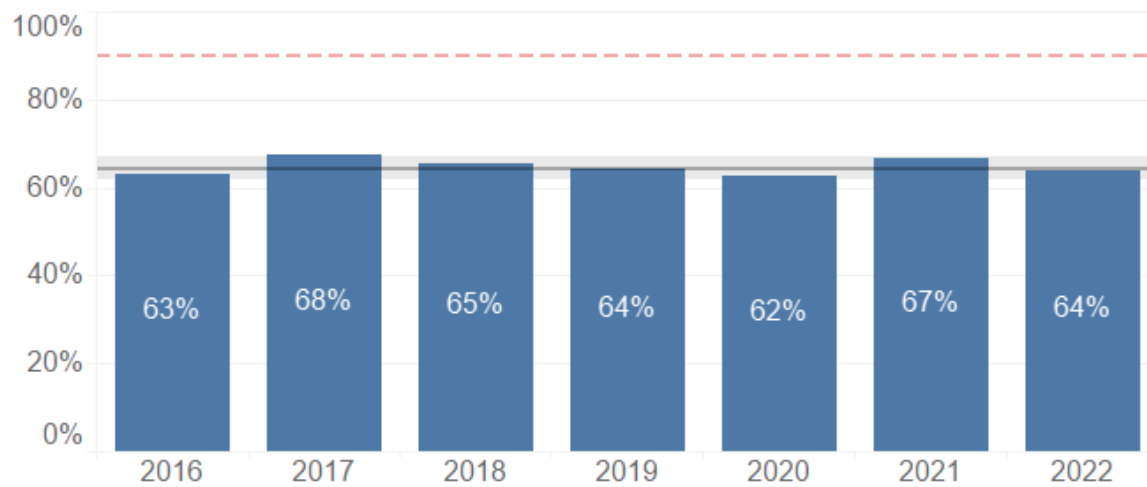


Table 5. Percentage of 7-year-olds by Immunization Status, Northern Health, 2016 – 2022

	2016	2017	2018	2019	2020	2021	2022
Up-to-date for age	63%	68%	65%	64%	62%	67%	64%
Refusal to all	0%	0%	1%	0%	0%	0%	0%
Refusals - at least one	2%	2%	3%	1%	0%	0%	1%
No Immunizations Recorded	12%	10%	12%	12%	13%	12%	13%

HSDA Breakdown

The immunization coverage for 7-year-olds in each of the Health Service Delivery Areas (HSDA) has remained relatively stable since 2016; from 2016 to 2021 (Figure 4). Unlike the two-year-old there was no significant change in immunization coverage during the pandemic years (2020 and 2021). The NI has the highest coverage rate of 71%, followed by the NW with 62% and the NE has the lowest coverage rate of 53% (Table 6).

Figure 4. Percentage of 7-year-olds with immunizations up to date for age with median line by HSDA, 2016 – 2022

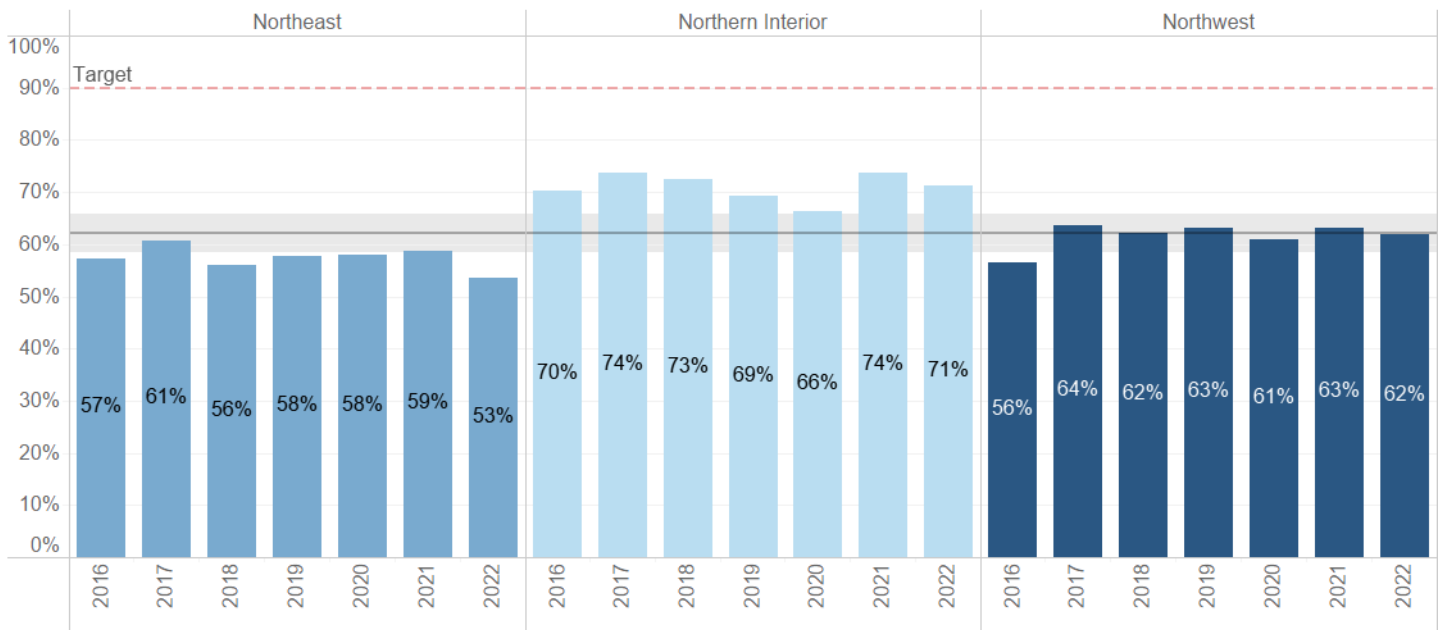


Table 6. Percentage of 7-year-olds by Immunization Status by HSDA, 2016 – 2022

		2016	2017	2018	2019	2020	2021	2022
Northeast	Up-to-date for age	57%	61%	56%	58%	58%	59%	53%
	Refusal to all	1%	0%	1%	0%	0%	0%	0%
	Refusals - at least one	3%	2%	4%	0%	0%	0%	2%
	No Immunizations Recorded	16%	13%	16%	17%	15%	17%	18%
Northern Interior	Up-to-date for age	70%	74%	73%	69%	66%	74%	71%
	Refusal to all	0%	0%	1%	0%	0%	0%	0%
	Refusals - at least one	2%	2%	3%	1%	0%	0%	1%
	No Immunizations Recorded	8%	7%	9%	9%	9%	8%	10%
Northwest	Up-to-date for age	56%	64%	62%	63%	61%	63%	62%
	Refusal to all	0%	0%	0%	0%	0%	0%	0%
	Refusals - at least one	1%	1%	1%	1%	0%	1%	0%
	No Immunizations Recorded	13%	11%	13%	12%	15%	13%	13%

When examining coverage rate by antigen (Table 7), there are antigens that represent several vaccines. These include D/T/aP/IPV which includes vaccines for Diphtheria, Tetanus, Pertussis and Polio. The coverage rates by antigen have remained relatively stable from 2016 – 2022; however, the NE declined in all antigens in 2022.

Table 7. Coverage Rate for 7-year-olds by Select Antigens and HSDA, from 2016 – 2022

		2016	2017	2018	2019	2020	2021	2022
Northeast	D/T/aP/IPV	67%	70%	64%	66%	68%	65%	59%
	Hep B	75%	78%	75%	75%	72%	75%	74%
	Polio	68%	71%	65%	67%	69%	66%	59%
	Varicella	63%	66%	60%	64%	67%	63%	57%
Northern Interior	D/T/aP/IPV	79%	82%	78%	77%	76%	80%	76%
	Hep B	84%	87%	85%	83%	81%	85%	85%
	Polio	80%	83%	79%	77%	77%	81%	77%
	Varicella	75%	79%	76%	75%	74%	78%	75%
Northwest	D/T/aP/IPV	69%	73%	71%	72%	71%	70%	69%
	Hep B	74%	80%	77%	78%	71%	78%	77%
	Polio	70%	74%	72%	73%	72%	71%	71%
	Varicella	63%	70%	68%	70%	70%	69%	68%

Grade 6 Coverage

Northern Health

For the vaccines administered in Grade 6 according to the immunization schedule, in 2022/23, Hepatitis B and Varicella had the largest uptake with 85% and 84% (Figure 5; Table 8). Human Papillomavirus (HPV) had an uptake of 50% for the most recent school year, which is an increase from previous years. When looking at documentation status as part of the Vaccine Status Reporting Requirement (VSRR), more than 50% of students are not fully documented within the Provincial Immunization Registry (Figure 6).

Figure 5: Percentage of Grade 6 Students by Select Vaccines, with median, Northern Health, 2018/19 - 2022/23 School Year

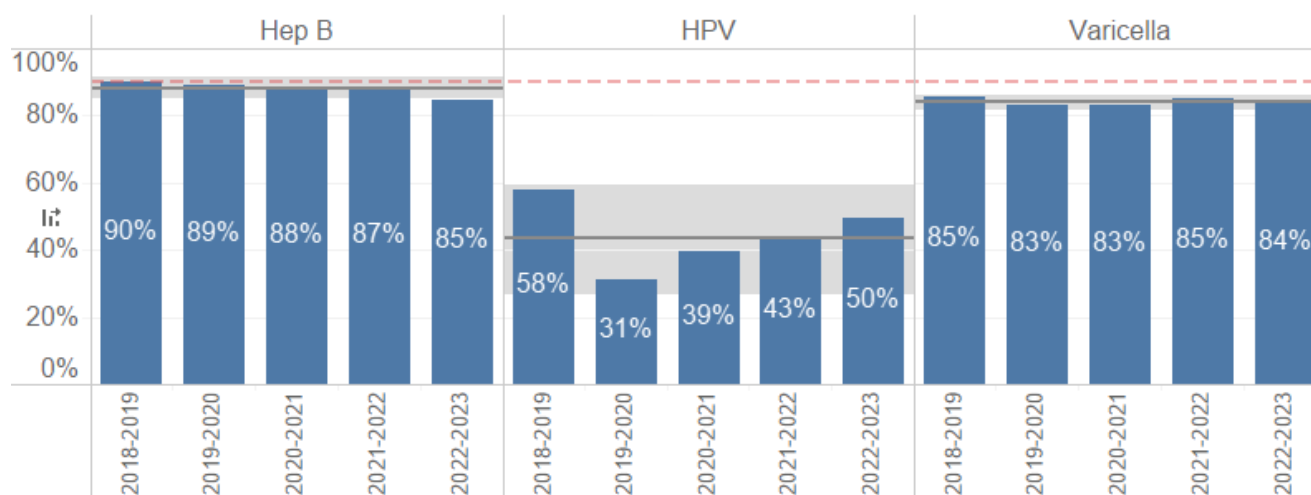
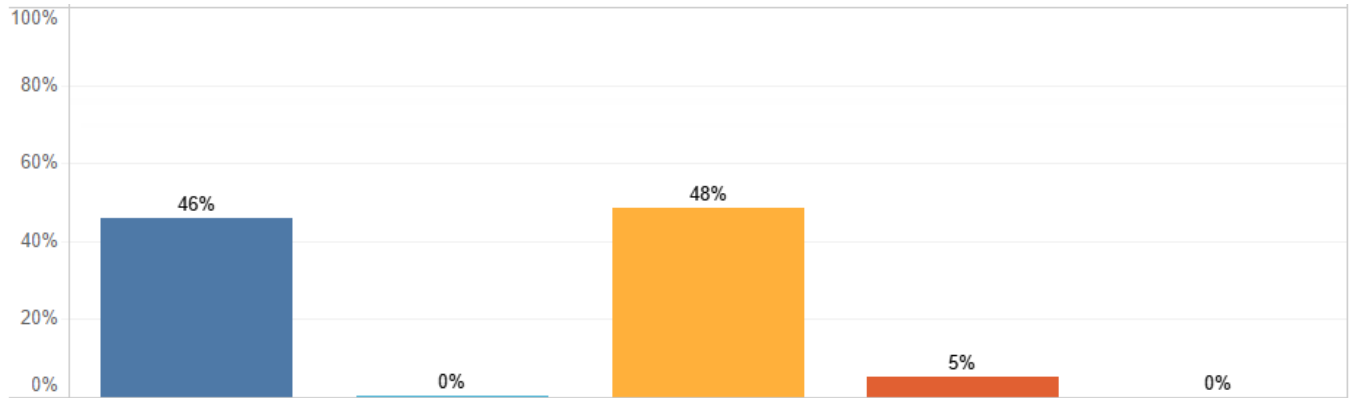


Table 8. Percentage Grade 6 Students by Select Antigens, Northern Health, 2018/19 - 2022/23 School Year

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Hep B	90%	89%	88%	87%	85%
HPV	58%	31%	39%	43%	50%
Varicella	85%	83%	83%	85%	84%
Varicella by Exemption	2%	2%	1%	1%	2%
No Immunizations Recorded	4%	4%	5%	5%	6%

Figure 6: Grade 6 by documentation status for Vaccine Status Reporting Requirements, Northern Health, 2022/23 School Year



Excludes COVID-19 or Influenza vaccines
 Source: PIR, July 2023

Immunization Documentation Status

- Fully Documented: Up-to-date for age (incl. HB and HPV)
- Partially Documented (incl. HB and HPV)
- Undocumented: No imms and No Refusals / Contraindic..
- Fully Documented: Unvaccinated (incl. HB and HPV)
- Fully Documented: Partially immunized (not up-to-date fo..

HSDA Coverage

Hep B and Varicella vaccine uptake has maintained static levels over the past five school years. In the 2022/23 school year, the NI had the highest proportion of Grade 6 students vaccinated against Hep B and Varicella. The NW had the highest proportion of students vaccinated against HPV. HPV vaccine uptake decreased during pandemic years but has rebounded to pre-pandemic levels in all HSDAs, with the NW seeing a steady increase for the last three years, and the NE saw a 137% increase for HPV this year compared to 2021/22 (Figure 7; Table 9).

Figure 7: Percentage of Grade 6 Students by Select Vaccines, with median, by HSDA, 2018/19 - 2022/23 School Year

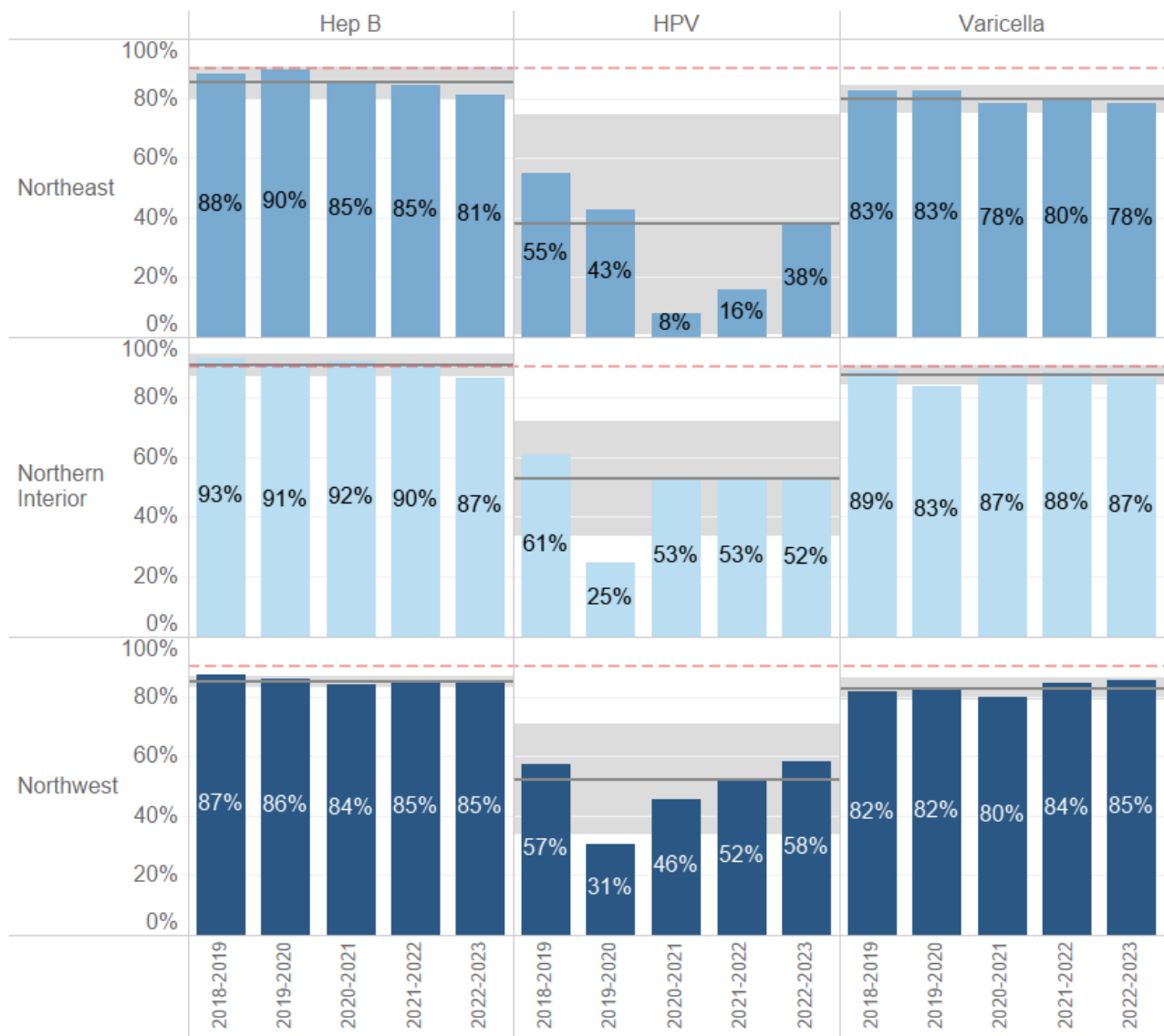
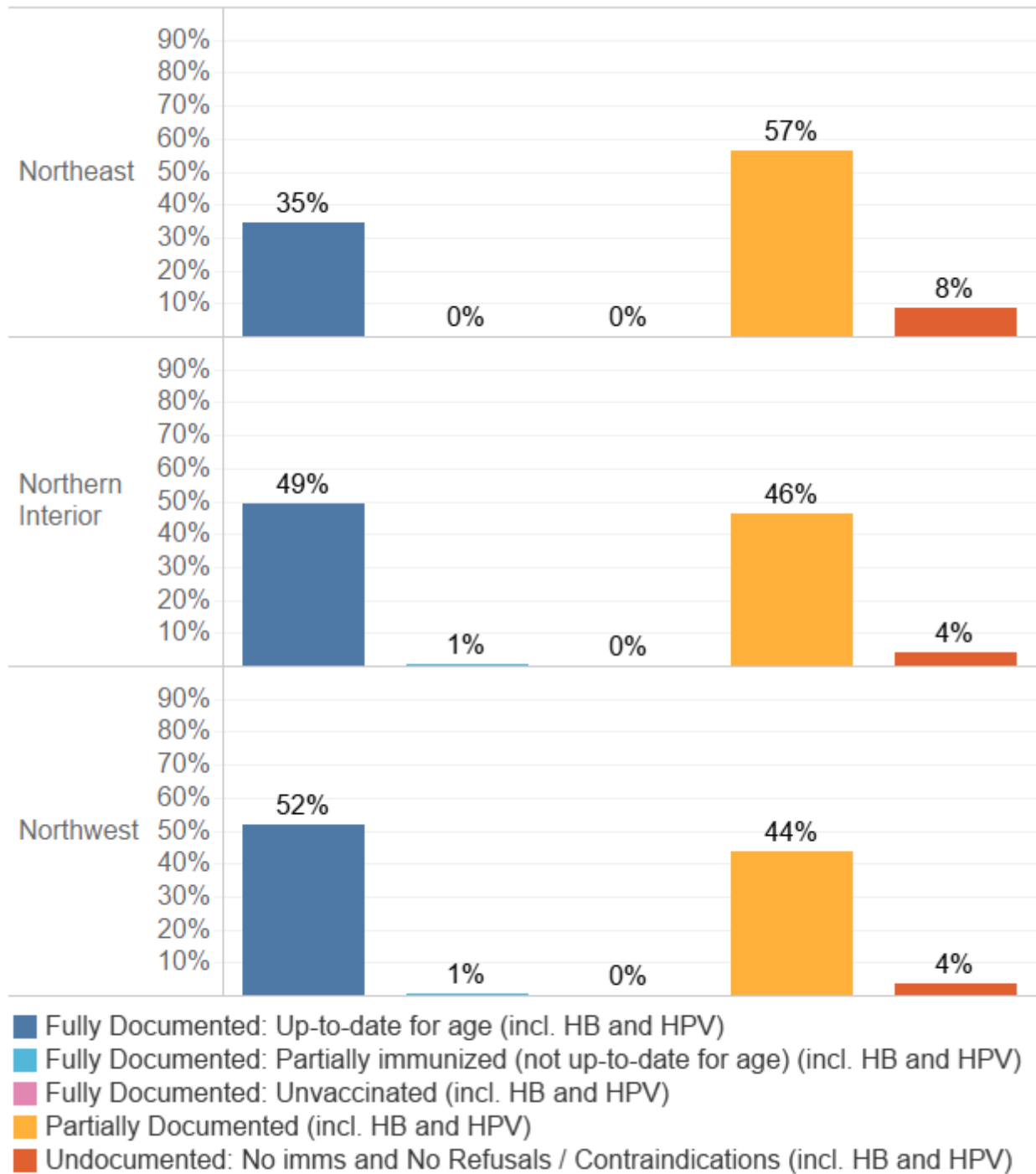


Table 9. Percentage of Grade 6 Students by Select Vaccines, with median, by HSDA, 2018/19 - 2022/23 School Year

		2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Northeast	Hep B	88%	90%	85%	85%	81%
	HPV	55%	43%	8%	16%	38%
	Varicella	83%	83%	78%	80%	78%
	Varicella by Exemption	2%	0%	1%	1%	2%
	No Immunizations Recorded	6%	4%	6%	6%	9%
Northern Interior	Hep B	93%	91%	92%	90%	87%
	HPV	61%	25%	53%	53%	52%
	Varicella	89%	83%	87%	88%	87%
	Varicella by Exemption	2%	2%	1%	1%	1%
	No Immunizations Recorded	3%	3%	3%	4%	5%
Northwest	Hep B	87%	86%	84%	85%	85%
	HPV	57%	31%	46%	52%	58%
	Varicella	82%	82%	80%	84%	85%
	Varicella by Exemption	2%	2%	1%	1%	2%
	No Immunizations Recorded	5%	6%	6%	5%	5%

When looking at documentation status as part of the Vaccine Status Reporting Requirement (VSRR), more than 50% of students are not fully documented within the Provincial Immunization Registry in all HSDAs (Figure 8).

Figure 8: Grade 6 by documentation status, by HSDA, Northern Health, 2022/23 School Year



Grade 9 Coverage

Northern Health

For the vaccines administered in Grade 9 according to the immunization schedule, in 2022/23, Meningococcal and Tetanus saw a slight increase in uptake from the previous school year (Figure 9; Table 10). When looking at documentation status as part of the Vaccine Status Reporting Requirement (VSRR), 60% of students are not fully documented within the Provincial Immunization Registry (Figure 6).

Figure 9: Percentage of Grade 9 Students by Select Vaccines, with median, Northern Health, 2018/19 - 2022/23 School Year

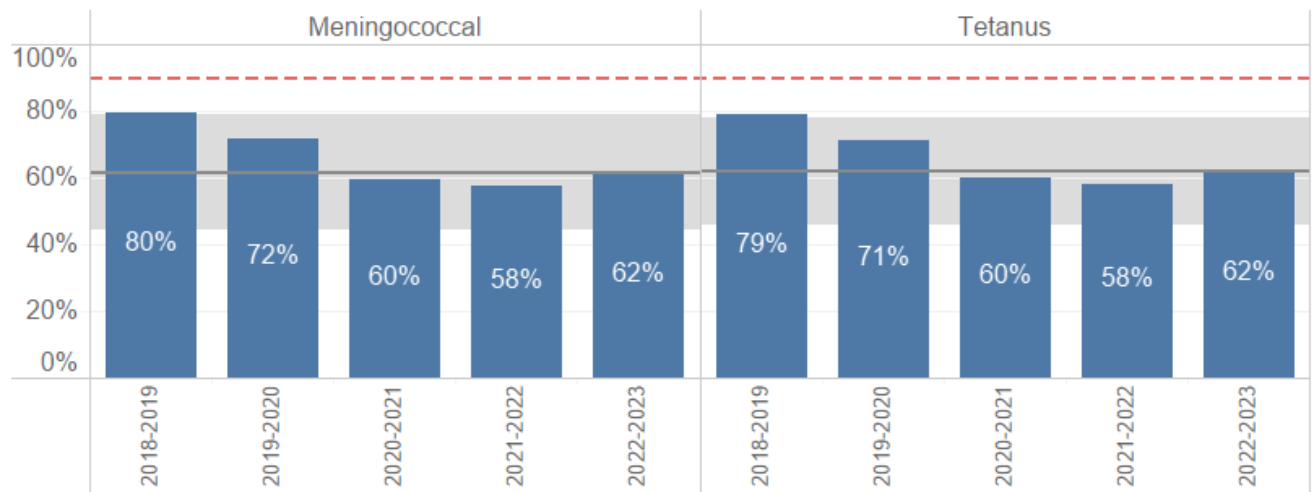
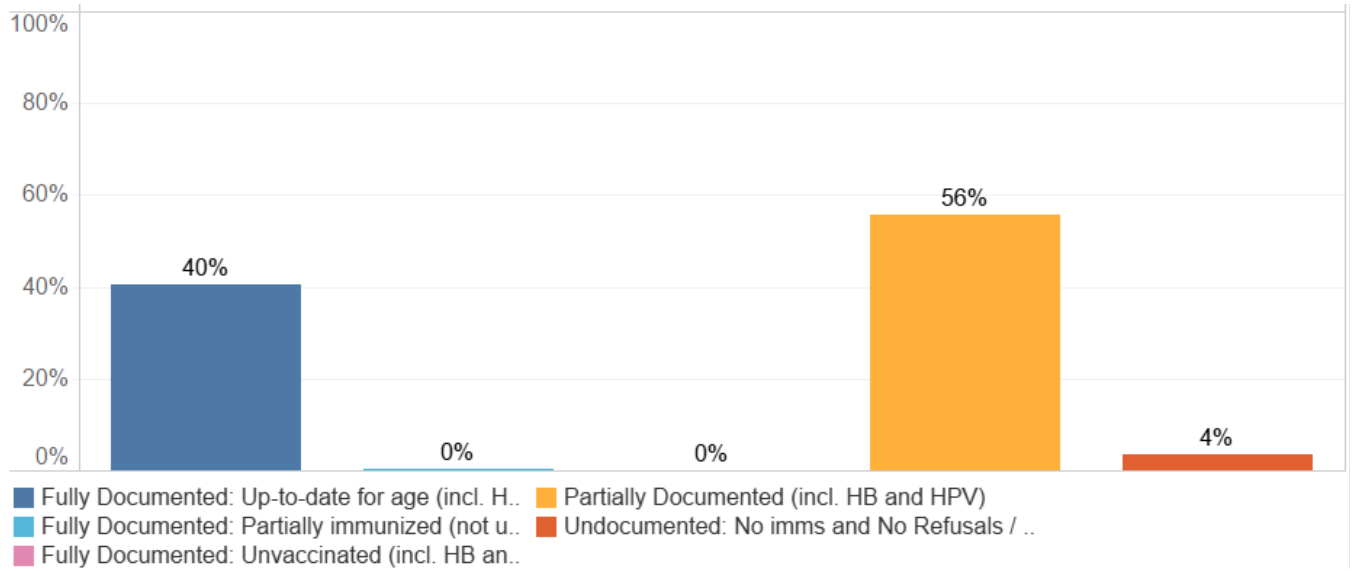


Table 10. Percentage Grade 9 Students by Recommended Vaccines, Northern Health, 2018/19 - 2022/23 School Year

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Meningococcal	80%	72%	60%	58%	62%
Tetanus	79%	71%	60%	58%	62%
No Immunizations Recorded	3%	4%	3%	5%	4%

Figure 10: Grade 9 by documentation status for Vaccine Status Reporting Requirements, Northern Health, 2022/23 School Year



HSDA Coverage

The NI has been seeing a decline in coverage rates for meningococcal and tetanus vaccines since the 2019/20 school year and this decline may have stopped with a slight increase in uptake this school year. The NW maintained their coverage rate for both antigens. The NE is continuing the upward trend for both meningococcal and tetanus since the 2020-21 school year (Figure 11; Table 11).

Figure 11: Percentage of Grade 9 Students by Select Vaccines, with median, by HSDA, 2018/19 - 2022/23 School Year

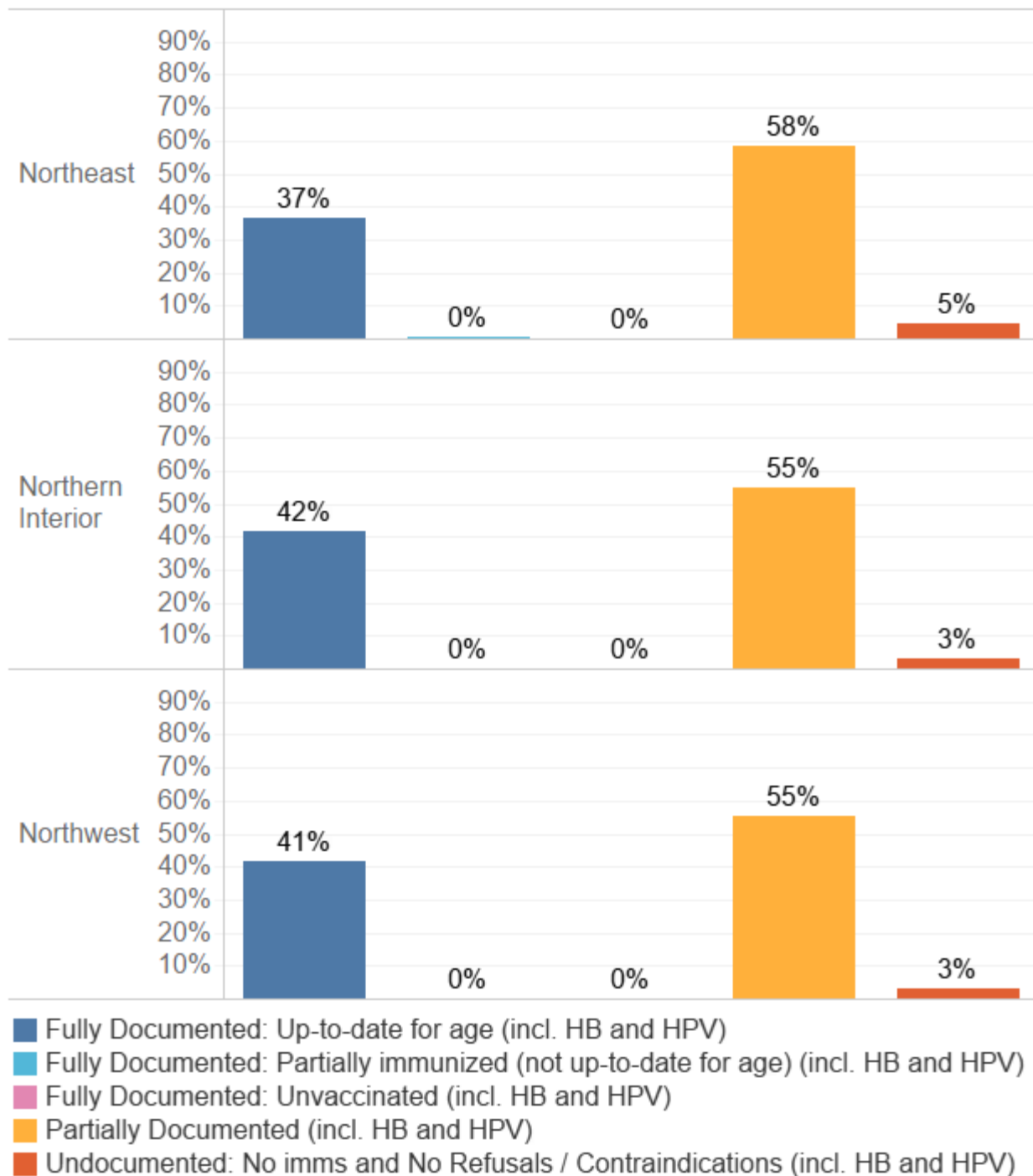


Table 11. Percentage of Grade 9 Students by Select Vaccines, with median, by HSDA, 2018/19 - 2022/23 School Year

		2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Northeast	Meningococcal	81%	70%	30%	47%	54%
	Tetanus	80%	69%	31%	50%	55%
	No Immunizations Recorded	4%	5%	5%	7%	5%
Northern Interior	Meningococcal	80%	73%	68%	60%	62%
	Tetanus	79%	73%	69%	60%	62%
	No Immunizations Recorded	2%	3%	2%	4%	3%
Northwest	Meningococcal	78%	70%	72%	64%	69%
	Tetanus	77%	71%	72%	64%	68%
	No Immunizations Recorded	4%	5%	3%	4%	5%

When looking at documentation status as part of the Vaccine Status Reporting Requirement (VSRR), approximately 60% of students are not fully documented within the Provincial Immunization Registry in all HSDAs (Figure 12)

Figure 12: Grade 9 by documentation status, by HSDA, Northern Health, 2022/23 School Year



Summary

Childhood immunization coverage rates for all age groups need improvement for all antigens to meet provincial target of 90%. The antigens that have the highest coverage rate are Hepatitis B and Varicella with approximately 80% coverage rate in all HSDAs. The evidence demonstrates that the current system, in which immunizations are provided, attains less than an 90% coverage rate.

A multipronged approach at various levels in the organization is required to improve immunization rates across NH. The Childhood Immunization Strategy (CIS) aims to establish foundational and sustainable knowledge, supports, partnerships and structures to incrementally increase NH's early childhood and school-age immunization rates.

Foundational tools, supports and partnerships arising from the CIS that are currently available to support interprofessional team efforts to improve child and youth immunization rates include:

- [Early Childhood and School Age Immunization Coverage Dashboard](#): released May 2023 for use by IPTs to explore the prior year's immunization coverage data
- [Childhood Immunization Clinic Planning Tool](#): released May 2023 for use by IPTs to plan for the year's routine childhood (age 0-6 years) immunization clinics. Support to use the tool is available from PHP PHRNs
- [Immunization skills competency assessor \(ISCA\) education course](#) and [tool](#): released November 2022 for use by IPTs to increase the number of assessors beyond only PHP PHRNs
- [Sustainable process to obtain enrollment information](#): released August 2023 to alleviate the administrative burden from IPTs of contacting schools for class lists
- [HPV vaccine uptake focused strategies](#) outlined in this August 2023 memo, including [partnerships with pharmacy HPV vaccine providers](#) in 11 communities

Technical Notes

Data Sources

- Data for this report were obtained from the Provincial Immunization Registry/Panorama.
- Data extraction: July 19, 2023

Methods

- Up to date for age: this logic is built into the reports that are obtained from Panorama. See Appendix for definitions.

Data Notes

- Numerators: Number of children with active records in Panorama/PIR
- Denominators: All children with active records in Panorama/PIR with Northern Health as their jurisdiction. This may not be up to date as address information may not be current.
- Coverage reported for any given year reflects uptake among children who turned 2 years old and 7 years old during that calendar year (i.e.. 2020 results are for children born in 2018).
- Supplemental immunization data is not recorded or transferred into Panorama and therefore no conclusions can be made regarding rates of immunization refusals.
- In May 2018, immunization data began to be electronically submitted to Panorama from CeDaR through PHIX (an interface). The data undergoes rigorous data quality controls and results in immunizations awaiting remediation.
 - Common issues are:
 - Missing PHN
 - Missing vaccine expiry date

Caution

Data in this report should be interpreted with caution for the following reasons:

- To be considered up-to-date for age, documentation of every dose in the provincial immunization registry (Panorama) is required. Some children may have received doses that have not been documented in the immunization registry.
- Data completeness with respect to children residing in the Health Authority may vary. Some areas enter all children born in their region into the registry. Other regions enter only those children into the system that present for service. In addition, First Nations children may not be completely captured in the registry system, as on-reserve birth records and immunizations may not be entered into

Panorama. In March 2020, Client Roster data were imported into Panorama from the BC Ministry of Health and biweekly updates from the Ministry of Health RAPID system (Maximus) were initiated. This should provide more complete information on the entire BC population in Panorama.

Appendix

For vaccine schedule, check out Immunize BC here: <https://immunizebc.ca/vaccine-schedules>

Definitions – 2-year-old immunizations

- Up to date for age:**
- 4 doses diphtheria/tetanus/pertussis,
 - 3 doses hepatitis B,
 - 1 dose measles/mumps/rubella,
 - 3 doses polio,
 - Up-to-date for Haemophilus influenzae type b as defined by age of first dose,
 - 1 dose varicella vaccine or recorded exemption for varicella due to previous disease or protective antibody levels,
 - Up-to-date for pneumococcal conjugate and meningococcal C conjugate as defined by age of first dose
- Up to date for age minus booster:**
- 3 doses diphtheria/tetanus/pertussis,
 - 3 doses hepatitis B,
 - 1 dose measles/mumps/rubella,
 - 2 doses polio,
 - At least 1 valid dose Haemophilus influenzae type b,
 - Up-to-date for Pneumococcal conjugate and meningococcal C conjugate as defined by age of first dose,
 - 1 dose varicella vaccine or recorded exemption for varicella due to previous disease or protective antibody levels
- D/T/aP/IPV:**
- 4 doses diphtheria/tetanus/pertussis,
 - 3 doses polio
- D/T/aP/IPV/Hib:**
- 4 doses diphtheria/tetanus/pertussis,
 - 3 doses polio,
 - Up-to-date for Haemophilus influenzae type b as defined by age of first dose
- Hep B:**
- 3 doses hepatitis B
- Hib:**
- If dose 1 before 15 months of age: at least 2 doses of Haemophilus influenza type b vaccine with the last dose on or after 12 months of age. If dose 1 on or after 15 months of age: 1 dose of Haemophilus influenza type b vaccine.
- MMR:**
- 1 dose measles/mumps/rubella
- Polio:**
- 3 doses polio
- Rotavirus:**
- 2 doses of rotavirus
- Varicella:**
- 1 dose of varicella or recorded exemption for varicella due to previous disease or protective antibody levels
- Meningococcal C conjugate (Men-C-C):**
- At least 1 dose of Meningococcal C conjugate on or after 12 months of age. For children who receive quadrivalent meningococcal conjugate vaccine instead of meningococcal C conjugate, 2-3 doses are required (depending on age at first dose).
- Pneumococcal:**
- As defined by age of first dose: 3 doses if dose 1 before 12 months of age; 2 doses if dose 1 between 12 and 23 months of age

conjugate
(Pneu-C):

Definitions – 7-year-old immunizations

Up to date for age:	<ul style="list-style-type: none"> • 4th or 5th dose of diphtheria/tetanus/pertussis on or after the 4th birthday, • 3rd or 4th dose of polio after the 4th birthday, • 3 doses of hepatitis B, • 2 doses of measles-containing vaccine, • 2 doses of mumps-containing vaccine, • At least 1 dose of rubella-containing vaccine, • 1 dose of varicella vaccine, or recorded exemption for varicella due to previous disease or protective antibody levels, • At least 1 dose of Meningococcal C Conjugate on or after 12 months of age
D/T/aP/IPV:	<ul style="list-style-type: none"> • 4th or 5th dose of diphtheria/tetanus/pertussis on or after the 4th birthday, • 3rd or 4th dose of polio on or after the 4th birthday
D/T/aP:	<ul style="list-style-type: none"> • 4th or 5th dose of diphtheria/tetanus/pertussis on or after the 4th birthday.
Hep B:	<ul style="list-style-type: none"> • 3 doses hepatitis B
Measles:	<ul style="list-style-type: none"> • 2 doses of measles-containing vaccine
Mumps:	<ul style="list-style-type: none"> • 2 doses of mumps-containing vaccine
Rubella:	<ul style="list-style-type: none"> • At least 1 dose of rubella-containing vaccine
Polio:	<ul style="list-style-type: none"> • 3rd or 4th dose of polio on or after the 4th birthday
Varicella:	<ul style="list-style-type: none"> • 1 dose of varicella or recorded exemption for varicella due to previous disease or protective antibody levels
Meningococcal C conjugate (Men-C-C):	<ul style="list-style-type: none"> • At least 1 dose of Meningococcal C conjugate on or after 12 months of age. For children who receive quadrivalent Meningococcal Conjugate vaccine instead of Meningococcal C Conjugate, 1-3 doses are required (depending on age at first dose).

Definitions – School Age Vaccine Schedule

BC Routine Immunization Schedule SCHOOL AGE		
Child's Grade		
Vaccine (Click on the vaccine name to view the vaccine HealthLinkBC file)	Grade 6 HealthLinkBC File	Grade 9 HealthLinkBC File
Hepatitis B	✓ 2 doses (if 3 doses not received in infancy) 2 nd dose 6 months after 1 st dose	
HPV[¶] (human papillomavirus)	✓ 2 doses 2 nd dose 6 months after 1 st dose	
Varicella[‡] (chickenpox)	✓ 1 or 2 doses [‡] 2 nd dose at least 3 months after 1 st dose	✖
Meningococcal Quadrivalent Conjugate		✓ 1 dose
Tdap (tetanus, diphtheria, pertussis)		✓ 1 dose

COVID-19 vaccination is recommended and free for people 6 months of age and older. Get information about [COVID-19 vaccines](#).

Yearly influenza (flu) vaccination is recommended for everyone 6 months of age and older. Appointments can be booked through the [Get Vaccinated system](#).

¶ The HPV vaccine has been offered to boys in grade 6 since September 2017.

‡ Children who had chickenpox or shingles disease, confirmed by a lab test, at 1 year of age or older do not need the chickenpox vaccine. Children who received a single dose of chickenpox vaccine at a younger age only need 1 dose in grade 6. Children who have never received the chickenpox vaccine need 2 doses.