



BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Immunization Programs &
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Immunization Uptake in Grade 6 Students

2002-2017

Grade 6 Students with Up-to-date Immunizations: Notes

DATA SOURCES

Summary reports by Health Service Delivery Areas and/or Health Authorities.

For Vancouver Island Health Authority (VIHA) in 2014 to 2017: Panorama immunization registry and enrollment estimates from the BC Ministry of Education (MoE).

For the Rutland branch in the Okanagan Health Service Delivery Area of the Interior Health Authority (IHA) in 2017: Panorama immunization registry data based on the grade cohort defined as students attending Grade 6 at a school within the Rutland branch's service area.

YEARS

2002-2017

Data last updated August 31, 2017.

Coverage reported on any given year reflects coverage as of June 30 of that year (e.g., 2017 coverage is for students completing Grade 6 by June 30, 2017).

NOTES

1. The numerator used to calculate percent uptake was the number of students enrolled in Grade 6 as of June 30 of the specified year who were up-to-date for age for the vaccine in question (per up-to-date for age definitions below).

2. Up-to-date for age definitions

Hepatitis B The proportion of students enrolled in Grade 6 as of June 30 who ever completed a series of hepatitis B vaccine (3 doses if series was started before 11 years of age; 2 doses if series was started on or after 11 years of age) by June 30.

Varicella The proportion of students enrolled in Grade 6 as of June 30 who reported a previous history of varicella disease or shingles or who received two valid doses of varicella vaccine by June 30. These children are only considered up-to-date if disease or immunization occurred on or after the first birthday.

NOTE: The evidence required to be recorded as having a previous history of varicella disease or shingles has changed over time. A self-reported history of varicella is adequate for those born before 2004; for those born in 2004 and later, a health care provider diagnosed history is required for reliability. Most children born in 2004 were in Grade 6 during the 2015/16 school year.

NOTE: Prior to 2013, only one dose of varicella vaccine (on or after the first birthday) was required in order to be considered up-to-date for varicella vaccine. This change in definition reflects a change in immunization policy that was implemented during the 2012/13 school year, when a second dose of varicella vaccine was offered to susceptible students in Grade 6.

NOTE: As of 2006, up-to-date for varicella has been measured as either previous disease or vaccination (1 dose until 2012, 2 doses as of 2013).

Human Papillomavirus The proportion of female students enrolled in Grade 6 as of June 30 who were up-to-date for age for Human Papillomavirus vaccine (HPV) by June 30.

NOTE: Starting in the 2010/11 school year, the HPV immunization schedule for girls in Grade 6 changed from requiring 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) to requiring 2 doses of HPV vaccine (with at least 6 months between doses until 2013/14, which changed to at least 5 months between doses from 2014/15 onwards).

Meningococcal C The proportion of students enrolled in Grade 6 as of June 30 who received 1 dose of meningococcal C-containing vaccine by June 30 and on or after 10 years of age.

NOTE: Starting in the 2009/10 school year, the definition of up-to-date for meningococcal C-containing vaccine specified that, in order to be up-to-date, the vaccine must have been received on or after 10 years of age. Previously, vaccines received on or after 12 months of age were counted. This more stringent definition may have caused an artefactual decrease in the reported meningococcal C coverage rate.

3. Unless otherwise indicated, the denominator used to calculate percent uptake was the number of students enrolled in Grade 6 as of June 30 of the specified year, according to class lists. For HPV uptake, only the number of female students enrolled in Grade 6 as of June 30 was used.

Exceptions:

- a. In 2002-2011, the Vancouver and Richmond Health Service Delivery Areas used the grade cohort as identified in PARIS as the denominator for their Grade 6 vaccine coverage.
 - b. In 2012, the Vancouver and Richmond Health Service Delivery Areas and the Coastal Urban (North Vancouver and West Vancouver) regions used the grade cohort as identified in PARIS as the denominator for their Grade 6 vaccine coverage. Coastal Rural and Bella Coola used class lists.
 - c. In 2013-2017, all of Vancouver Coastal Health Authority used the grade cohort as identified in PARIS as the denominator for their Grade 6 vaccine coverage.
 - d. In 2014-2017, all Health Service Delivery Areas in VIHA used enrollment estimates from the MoE.
 - e. In 2017, the Rutland branch in the Okanagan HSDA used the grade cohort as defined in Panorama.
4. Due to the difference in methods used for calculate coverage in the Rutland branch in the Okanagan HSDA in 2017, the Okanagan and IHA results, and corresponding provincial data for 2017 are not directly comparable to previous years.
 5. Due to a difference in methods used for enumerating the numerator and denominator, the VIHA results, and corresponding provincial data for 2014 to 2017 are not directly comparable to previous years. Related to implementation of the new public health information system (called Panorama) in July 2013, VIHA 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 6 enrolment; denominators were aggregate data from the MoE's data on enrollment in Grade 6 to attempt to account for those who have moved out of VIHA. This change has led to inaccurate ascertainment of coverage rates, which may be artefactually higher or lower than true coverage rates depending on the antigen.

School district boundaries do not directly line up with health region boundaries. MoE enrollment data are based on a process that requires the Health Authority to identify schools corresponding to each Health Service Delivery Area. The MoE enrollment data exclude youth custody and continuing education schools.

Ideally, numerators and denominators should be taken from the same data source. Using different data sources for numerators and denominators can result in inaccurate results, including coverage calculations exceeding 100%.

When the 2011-2013 coverage estimates for the VIHA Health Service Delivery Areas (HSDAs) that were calculated using class list enrolment reconciled against immunization registry for the numerator data and class lists for denominator data were compared to estimates obtained using the methods used in 2014-2017, large differences were identified. As an example, hepatitis B coverage estimates were 11% lower to 25% higher by HSDA and year using the routine methods.

6. In 2015, three schools with Grade 6 students in the Kootenay Boundary Health Service Delivery Area did not provide public health with class lists. As the children attending these schools could not be identified, they could not be included in the immunization coverage analysis. Based on information posted on the BC Ministry of Education's website, these schools account for approximately 3% of Grade 6 students in Kootenay Boundary.
7. Information requested regarding previous varicella disease or vaccination was not reported completely by parents in the first few years of the program. As a result, the proportions of children protected against varicella were likely underestimates.
8. In the 2008/09 school year, a misunderstanding of the definitions for varicella resulted in South Vancouver Island (SVI) Health Service Delivery Area reporting over 100% of grade 6 students protected against varicella through either vaccination or previous disease. For up-to-date measures of varicella in 2008/09, SVI was excluded from the numerators and denominators for the VIHA and BC estimates.

9. While all grade 6 students attending BC schools are intended to be included in this report, some students may be under-represented. This includes home-schooled students and international students who are not identified to public health. It also includes students who attend schools that do not receive services from regional public health, including some schools serviced by First Nations Health Services Organizations, distance/distributed learning schools and schools refusing any contact with public health due to religious or philosophical reasons.
10. In 2002 and 2003 data were submitted by the Health Authorities and compiled by the Prevention and Wellness Planning Division, BC Ministry of Health Services. For this report, data from 2002 and 2003 were obtained from the Health Data Warehouse, BC Ministry of Health Services. From 2004 onward, data were submitted by the Health Service Delivery Areas and/or Health Authorities and compiled by the BC Centre for Disease Control.
11. Data may not be comparable by Health Service Delivery Area from year to year due to ongoing changes in data collection methods and changes in geographic health area boundaries. However, assuming consistency in reporting practices, overall trends in immunization coverage can be assessed by examining these data.

12. Abbreviations

Health Authorities:

FHA	Fraser Health Authority	VCHA	Vancouver Coastal Health Authority
IHA	Interior Health Authority	VIHA	Vancouver Island Health Authority
NHA	Northern Health Authority		

Health Service Delivery Areas:

EK	East Kootenay	VAN	Vancouver
KB	Kootenay Boundary	NSCG	North Shore / Coast Garibaldi
OK	Okanagan	SVI	South Vancouver Island
TCS	Thompson Cariboo Shuswap	CVI	Central Vancouver Island
FE	Fraser East	NVI	North Vancouver Island
FN	Fraser North	NW	Northwest
FS	Fraser South	NI	Northern Interior
RICH	Richmond	NE	Northeast

For an explanation of BC Health Authorities, please visit:

<http://www.health.gov.bc.ca/socsec/index.html>

Grade 6 Students with Up-to-date Immunizations: Hepatitis B

HEALTH AUTHORITY / HEALTH SERVICE DELIVERY AREA	YEAR															
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*	2015*	2016*	2017*
INTERIOR	91.6%	90.3%	89.4%	89.6%	89.9%	89.6%	86.9%	87.4%	85.6%	83.9%	83.8%	89.4%	90.5%	89.2%	89.9%	89.3%
East Kootenay	89.6%	89.5%	89.5%	92.2%	91.2%	89.8%	88.5%	88.3%	82.0%	81.9%	82.9%	91.4%	91.4%	89.0%	91.2%	85.8%
Kootenay Boundary	87.6%	87.3%	87.5%	85.6%	86.0%	84.7%	77.9%	79.0%	77.7%	72.8%	73.6%	80.9%	82.9%	82.4%	80.5%	82.8%
Okanagan	91.0%	89.6%	87.1%	89.7%	88.9%	88.9%	85.7%	86.1%	84.3%	83.2%	83.5%	88.2%	89.1%	89.3%	89.7%	88.9%
Thompson Cariboo Shuswap	94.8%	92.7%	93.6%	89.9%	92.2%	92.4%	91.0%	91.7%	91.2%	89.6%	88.6%	93.5%	94.8%	91.3%	93.2%	93.5%
FRASER	92.6%	92.0%	91.3%	90.3%	87.7%	87.7%	88.1%	86.2%	82.5%	81.0%	83.5%	87.5%	89.0%	89.0%	90.6%	91.8%
Fraser East	92.0%	89.5%	90.6%	86.7%	82.8%	82.4%	83.1%	80.6%	74.7%	76.7%	78.7%	86.9%	89.0%	86.9%	87.2%	90.5%
Fraser North	93.2%	93.2%	92.7%	91.4%	89.9%	89.4%	88.3%	86.2%	82.2%	79.6%	80.6%	82.9%	86.5%	86.3%	90.1%	91.5%
Fraser South	92.4%	92.2%	90.6%	90.9%	88.0%	88.5%	90.1%	88.4%	85.6%	83.6%	87.2%	91.0%	90.7%	91.7%	92.3%	92.5%
VANCOUVER COASTAL	88.7%	86.9%	88.2%	88.3%	85.1%	91.0%	86.7%	87.5%	86.9%	90.9%	91.9%	92.4%	93.0%	93.2%	94.2%	93.6%
Richmond	90.8%	93.6%	93.5%	92.0%	92.1%	95.9%	91.7%	92.2%	92.9%	97.0%	97.1%	97.3%	96.9%	96.9%	98.5%	96.8%
Vancouver	84.1%	85.5%	88.7%	86.5%	80.4%	91.0%	83.4%	87.5%	86.4%	91.4%	92.6%	92.8%	93.4%	93.8%	94.0%	94.3%
North Shore / Coast Garibaldi	94.6%	84.9%	84.3%	88.8%	88.9%	88.0%	88.5%	84.3%	83.5%	86.3%	87.4%	88.8%	90.0%	90.1%	91.8%	90.6%
VANCOUVER ISLAND *	91.3%	89.9%	90.5%	88.4%	88.5%	86.2%	85.7%	87.1%	79.6%	80.8%	79.6%	90.5%	95.9%	97.9%	97.5%	98.5%
South Vancouver Island	92.8%	91.2%	93.0%	90.4%	91.1%	88.8%	88.5%	87.3%	80.4%	81.3%	83.1%	92.2%	93.2%	98.5%	97.0%	97.9%
Central Vancouver Island	88.9%	90.2%	88.1%	87.9%	89.4%	83.5%	83.0%	89.1%	81.3%	81.9%	75.7%	89.6%	98.4%	96.2%	99.0%	97.9%
North Vancouver Island	91.7%	86.6%	89.1%	84.5%	80.1%	85.4%	84.9%	82.1%	74.4%	77.5%	78.5%	88.0%	98.1%	99.6%	96.0%	100.0%
NORTHERN	91.9%	91.6%	91.5%	92.2%	91.2%	88.8%	90.1%	89.4%	86.8%	88.0%	85.9%	93.4%	94.4%	92.7%	92.9%	91.5%
Northwest	91.4%	90.2%	89.5%	91.4%	89.6%	90.8%	88.2%	86.8%	82.5%	85.8%	83.9%	93.1%	95.2%	92.5%	94.4%	93.5%
Northern Interior	91.7%	93.3%	93.4%	93.0%	92.9%	88.5%	91.4%	91.2%	91.2%	90.0%	88.5%	94.3%	95.5%	94.4%	94.8%	92.5%
Northeast	93.1%	89.8%	89.9%	91.3%	89.3%	87.2%	89.5%	88.6%	82.5%	86.0%	83.2%	92.0%	91.2%	89.5%	88.0%	87.7%
BRITISH COLUMBIA *	91.4%	90.3%	90.3%	89.6%	87.9%	88.5%	87.4%	87.0%	83.8%	84.0%	85.0%	89.7%	91.5%	91.5%	92.4%	92.8%

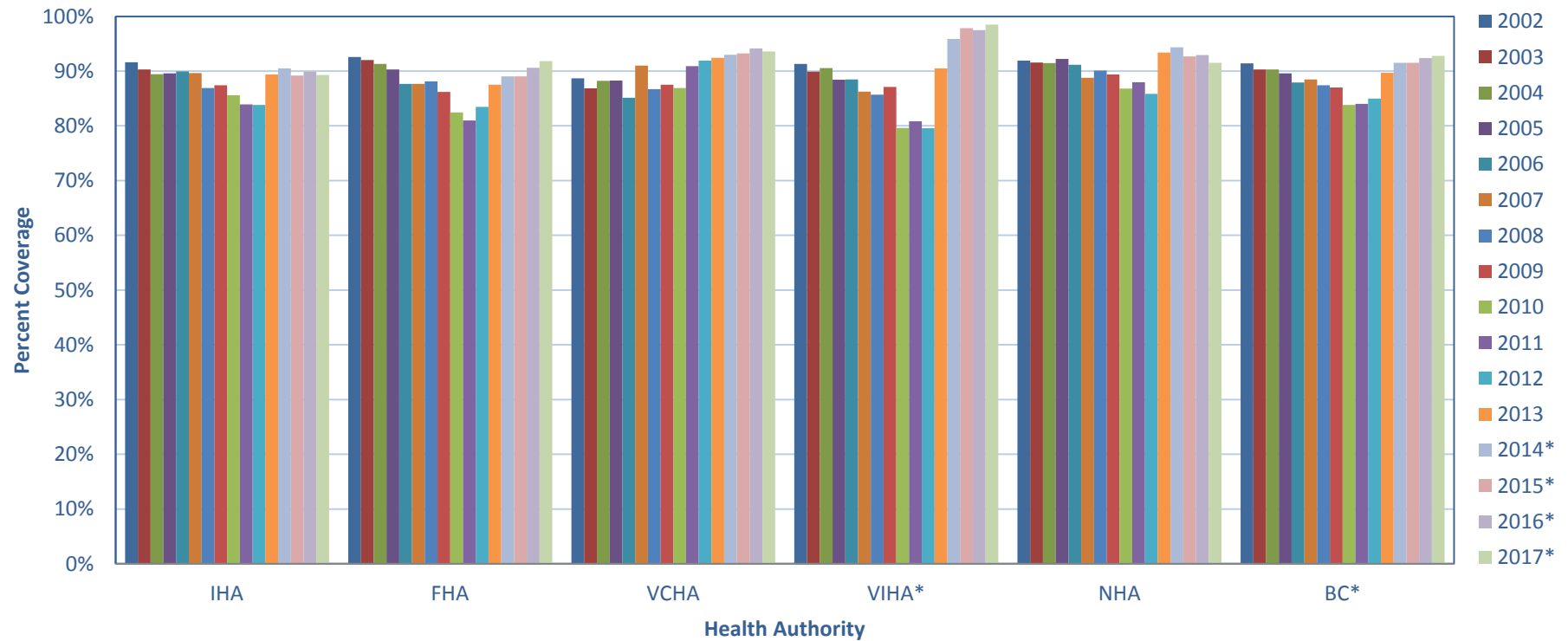
See data sources and notes on accompanying cover pages.

* The 2014 - 2017 VIHA and BC estimates are not directly comparable to previous years. See Note #5, page 2.

Hepatitis B coverage in Grade 6 students increased slightly in two Health Authorities (1.2% in FHA, 1.0% in VIHA) and decreased slightly in three Health Authorities (0.6% in IHA and VCH and 1.4% in NHA), when compared to 2016. Coverage had increased significantly in 2013, compared to previous years. The majority of children in Grade 6 during the 2012/13 school year were born in 2001, which was the first year infants were routinely offered a 3-dose series of publicly funded hepatitis B vaccine. The high coverage rates for the years beginning in 2013 reflect immunization in infancy and thereafter.

Rates and trends varied by Health Service Delivery Area. In 2017, hepatitis B coverage rates in the Health Service Delivery Areas ranged from 82.8% to 100%.

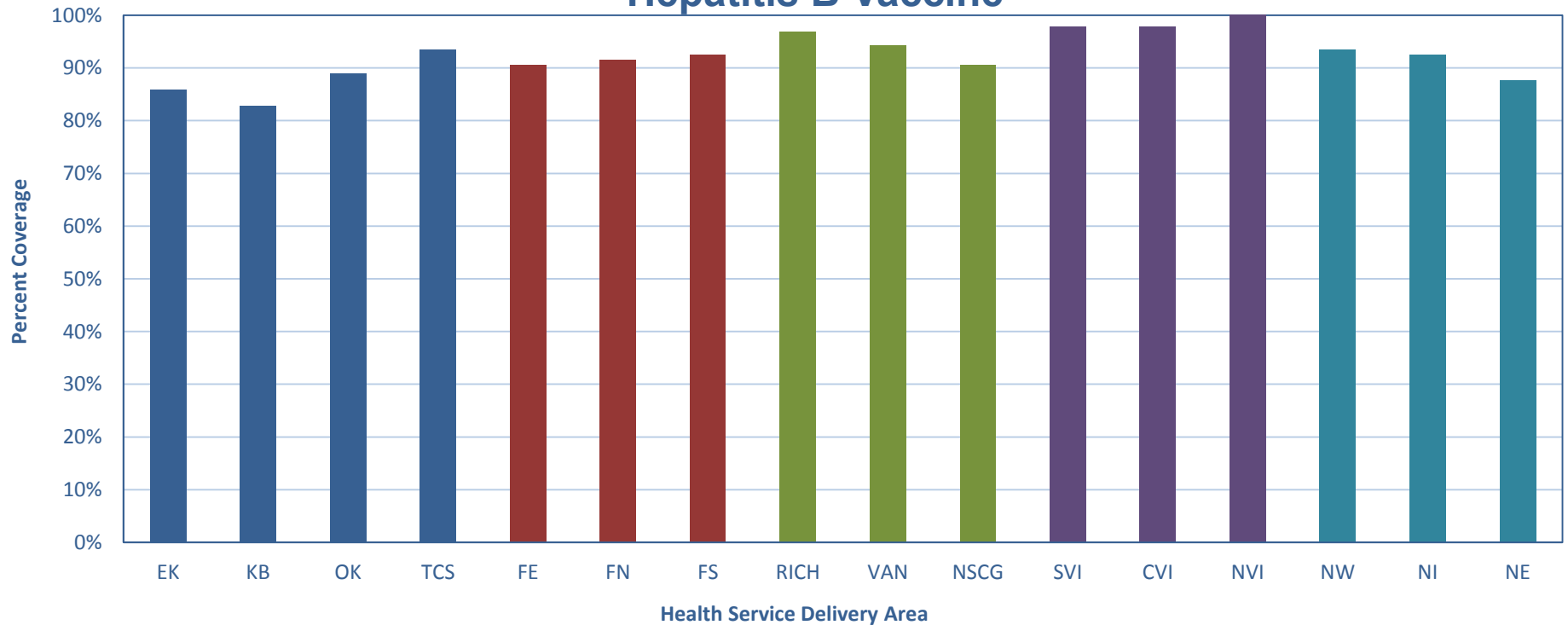
Grade 6 Students with Up-to-date Immunizations, 2002-2017* Hepatitis B Vaccine



See data sources and notes on accompanying cover pages.

* The 2014 - 2017 VIHA and BC estimates are not directly comparable to previous years. See Note #5, page 2.

Grade 6 Students with Up-to-date Immunizations, 2017* Hepatitis B Vaccine



* The 2017 VIHA estimates are not directly comparable to all previous years (see Note #5, page 2).

Grade 6 Students with Up-to-date Protection: Varicella

HEALTH AUTHORITY / HEALTH SERVICE DELIVERY AREA	YEAR											
	2006	2007	2008	2009*	2010	2011	2012	2013	2014*	2015*	2016*	2017*
INTERIOR	87.7%	91.9%	85.7%	87.2%	86.0%	90.4%	88.3%	85.7%	84.7%	82.2%	83.4%	82.5%
East Kootenay	90.8%	91.4%	89.6%	89.5%	81.0%	89.6%	91.7%	88.0%	90.0%	85.4%	82.8%	82.4%
Kootenay Boundary	89.4%	87.7%	82.3%	89.0%	74.6%	87.1%	81.9%	74.6%	74.3%	78.4%	76.7%	78.5%
Okanagan	83.0%	90.0%	82.8%	82.6%	85.9%	89.2%	87.0%	83.9%	82.5%	80.6%	82.6%	80.9%
Thompson Cariboo Shuswap	93.0%	96.7%	89.6%	92.9%	91.6%	94.0%	91.6%	91.6%	89.4%	84.9%	87.3%	86.5%
FRASER	79.0%	85.6%	88.0%	88.2%	81.8%	84.6%	83.5%	82.6%	82.6%	81.9%	82.8%	83.4%
Fraser East	81.4%	85.6%	85.7%	82.4%	77.0%	84.8%	80.5%	80.9%	80.1%	80.6%	79.3%	79.8%
Fraser North	75.0%	81.1%	85.5%	82.2%	82.1%	79.9%	79.3%	80.0%	81.1%	79.0%	80.2%	80.9%
Fraser South	81.0%	88.6%	90.8%	91.2%	83.4%	87.7%	87.5%	85.1%	84.6%	84.3%	85.9%	86.2%
VANCOUVER COASTAL	79.5%	91.8%	92.5%	91.9%	89.3%	89.3%	87.7%	85.0%	85.8%	85.6%	87.0%	85.9%
Richmond	92.6%	96.5%	96.3%	96.2%	94.3%	84.4%	90.1%	92.0%	90.1%	91.8%	93.4%	86.8%
Vancouver	68.5%	91.0%	91.3%	92.0%	89.4%	90.4%	86.4%	84.5%	85.0%	84.8%	84.9%	86.8%
North Shore / Coast Garibaldi	90.2%	90.0%	91.7%	88.7%	85.7%	90.4%	88.2%	81.5%	84.6%	83.3%	86.6%	83.7%
VANCOUVER ISLAND *	89.8%	88.2%	89.7%	91.9%	81.0%	89.2%	88.2%	82.5%	76.1%	78.0%	84.8%	82.3%
South Vancouver Island	91.1%	89.0%	90.2%		79.5%	89.3%	90.0%	82.6%	72.0%	78.0%	84.9%	81.8%
Central Vancouver Island	94.0%	91.2%	90.5%	94.2%	86.0%	92.1%	85.9%	81.7%	80.1%	78.5%	86.5%	82.7%
North Vancouver Island	78.1%	79.9%	87.1%	87.1%	74.8%	83.3%	88.0%	83.6%	79.2%	76.9%	81.3%	83.2%
NORTHERN	90.4%	89.9%	90.8%	91.9%	88.4%	92.6%	91.1%	87.7%	86.1%	84.2%	84.6%	83.1%
Northwest	81.2%	88.7%	83.7%	91.1%	86.5%	92.3%	92.0%	90.4%	87.9%	87.7%	84.5%	84.9%
Northern Interior	93.0%	88.1%	93.2%	92.0%	88.5%	93.3%	91.4%	86.8%	86.5%	83.8%	87.7%	86.1%
Northeast	95.7%	94.8%	93.5%	92.6%	90.3%	91.3%	89.7%	86.6%	83.7%	81.3%	78.7%	75.8%
BRITISH COLUMBIA *	83.1%	88.6%	89.1%	89.5%	84.4%	87.8%	86.4%	83.9%	82.9%	82.3%	84.2%	83.6%

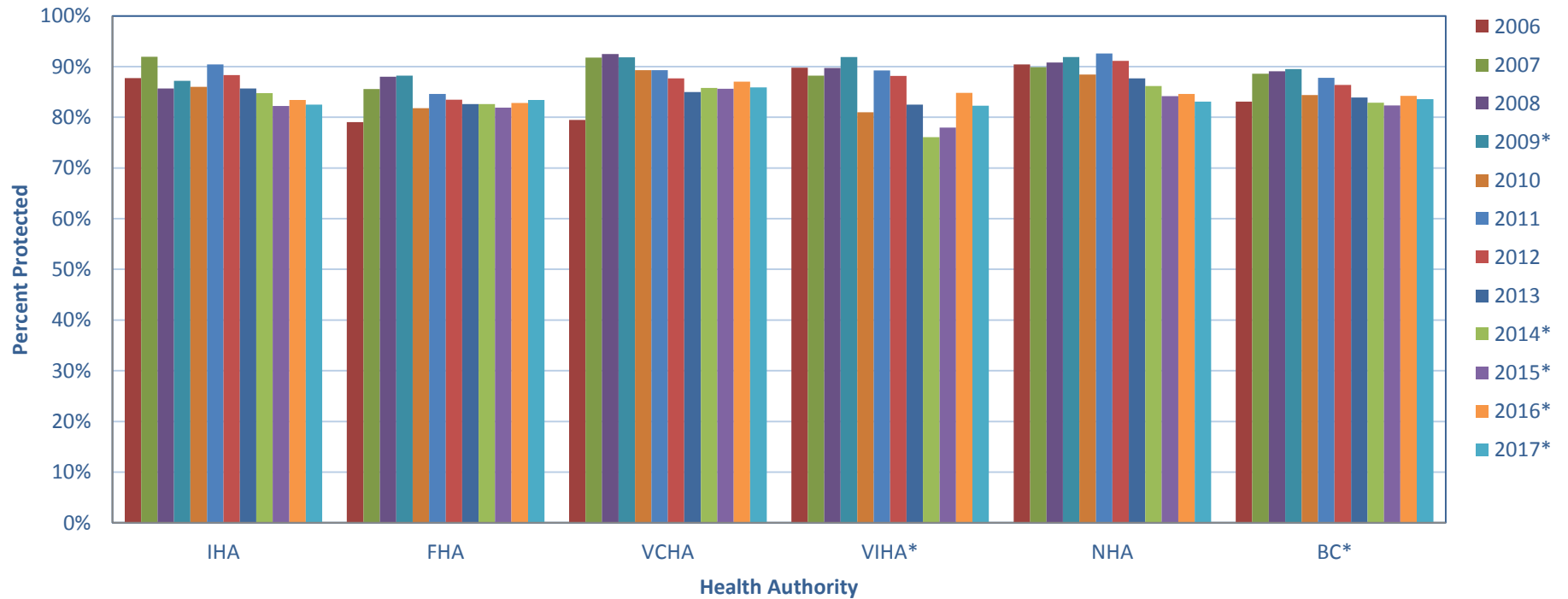
See data sources and notes on accompanying cover pages.

* In 2009, South Vancouver Island was excluded from the numerators and denominators for the VIHA and BC estimates (see Note #8, page 2). The 2014 to 2017 VIHA and BC estimates are not directly comparable to previous years (see Note #5, page 2). The evidence required to be recorded as having a previous history of varicella disease or shingles became more stringent as of the 2004 birth cohort i.e., Grade 6 during the 2015/16 school year (see Note #2, page 1).

Since 2013, when the definition of "up-to-date" for varicella vaccine changed to requiring two doses, varicella coverage has ranged between 82.3% and 84.2%. Compared to 2016, the percent up-to-date in 2017 increased by 0.6% in FHA and decreased by 2.5% in VIHA, 1.5% in NHA and 1.1% in VCHA and 0.9% in IHA. While the overall percent up-to-date for varicella has declined over the past year, the percent immunized has increased every year, with 77.8% of Grade 6 students in 2017 having received 2 doses of varicella vaccine. The proportion of children reporting varicella disease has dropped from 67.7% in 2007 to 5.3% in 2017, as fewer children are exposed to wild-type varicella.

Rates and trends varied by Health Service Delivery Area. In 20157 the proportions of children up-to-date for varicella ranged from 75.8% to 86.8%.

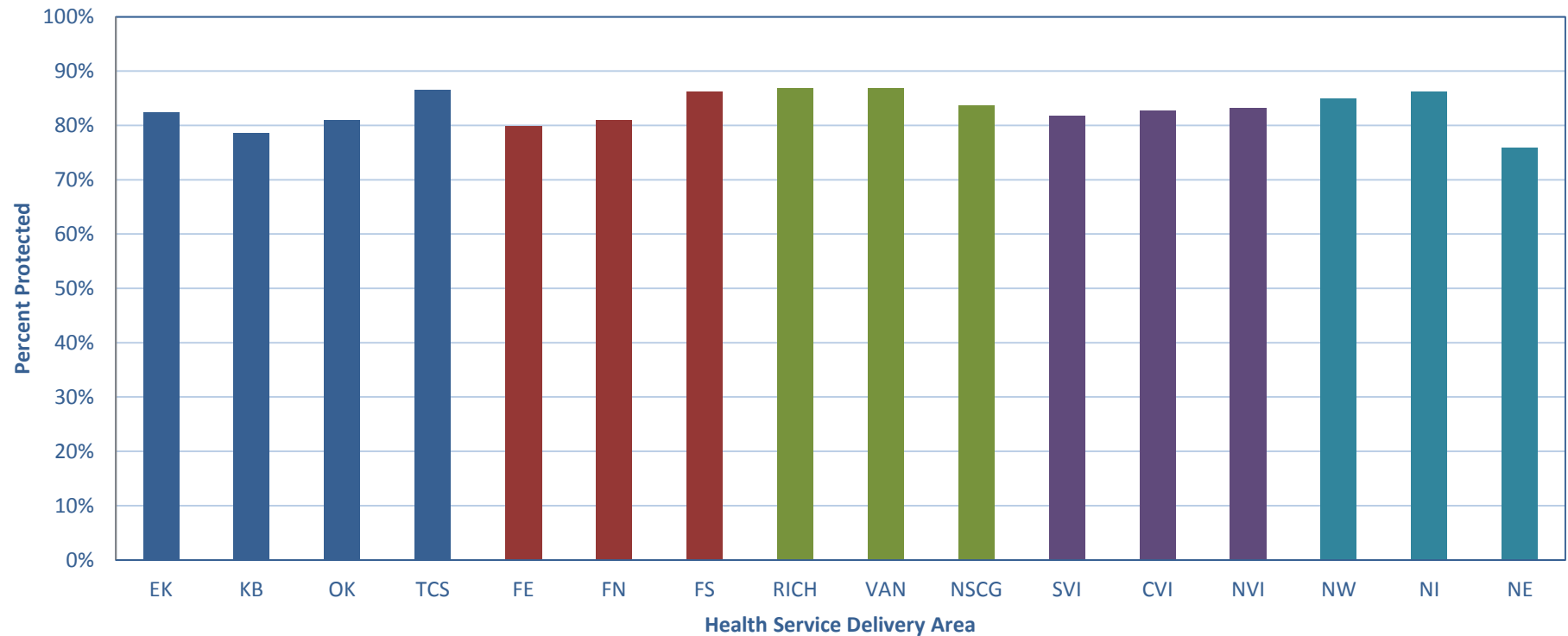
Grade 6 Students with Up-to-date Immunizations, 2006-2017* Varicella Vaccine or Previous Disease



See data sources and notes on accompanying cover pages.

* In 2009, South Vancouver Island was excluded from the numerators and denominators for the VIHA and BC estimates (see Note #8, page 2). The 2014 to 2017 VIHA and BC estimates are not directly comparable to previous years (see Note #5, page 2). The evidence required to be recorded as having a previous history of varicella disease or shingles became more stringent as of the 2004 birth cohort i.e., Grade 6 during the 2015/16 school year (see Note #2, page 1).

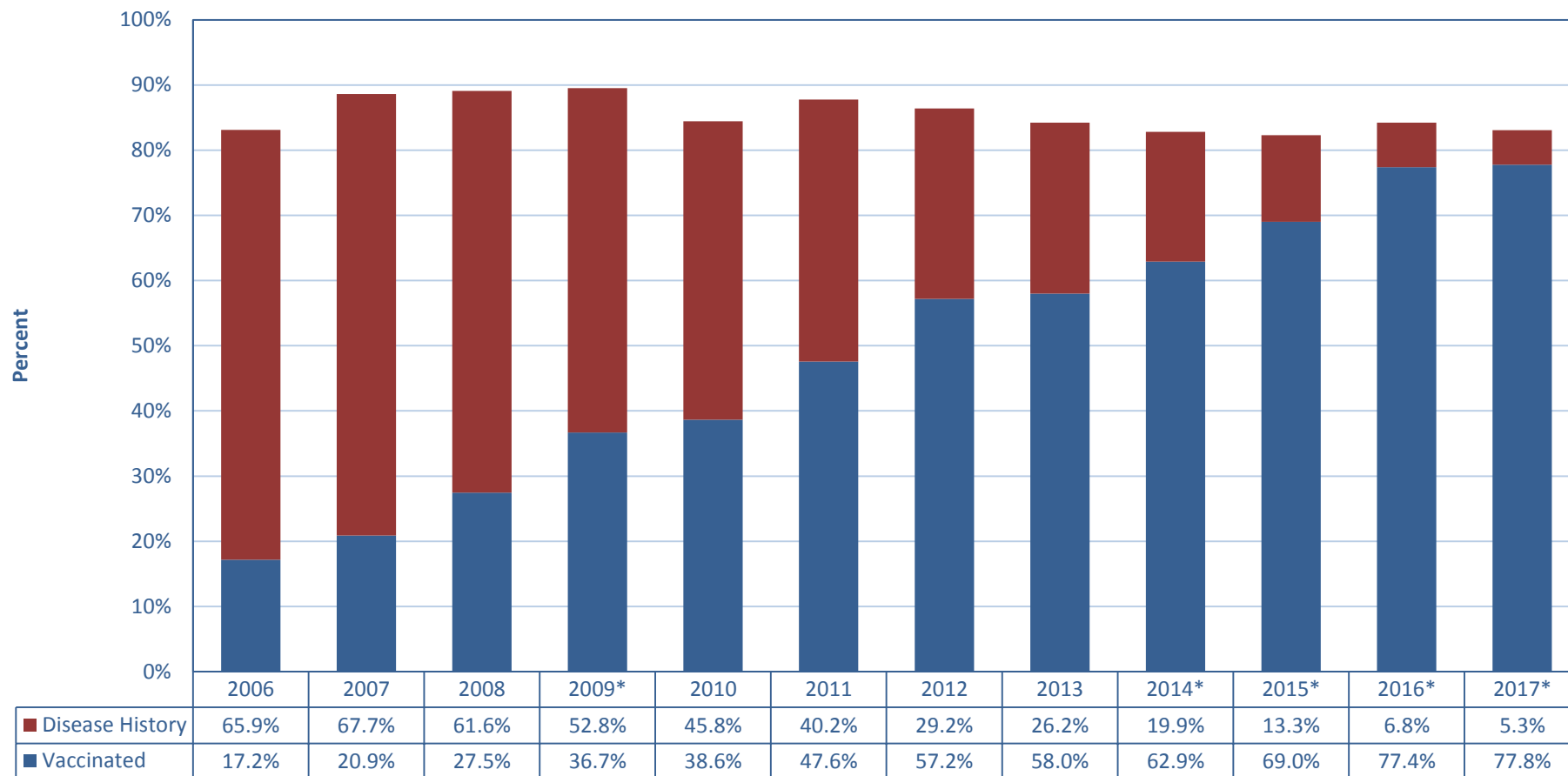
Grade 6 Students with Up-to-date Immunizations, 2017* Varicella Vaccine or Previous Disease



See data sources and notes on accompanying cover pages.

* The 2017 VIHA estimates are not directly comparable to all previous years (see Note #5, page 2).

Grade 6 Students with Up-to-date Immunizations, 2006-2017* Varicella Vaccine and Previous Disease, British Columbia



See data sources and notes on accompanying cover pages.

* In 2009, South Vancouver Island was excluded from the numerators and denominators for the VIHA and BC estimates (see Note #8, page 2). The 2014 to 2017 VIHA and BC estimates are not directly comparable to previous years (see Note #5, page 2). The evidence required to be recorded as having a previous history of varicella disease or shingles became more stringent as of the 2004 birth cohort i.e., Grade 6 during the 2015/16 school year (see Note #2, page 1).

Grade 6 Female Students with Up-to-date Immunizations: Human Papillomavirus (HPV)

HEALTH AUTHORITY / HEALTH SERVICE DELIVERY AREA	YEAR								
	2009	2010	2011	2012	2013	2014*	2015*	2016*	2017*
INTERIOR	61.7%	62.2%	67.9%	67.7%	67.8%	68.1%	63.4%	64.6%	63.4%
East Kootenay	66.0%	59.6%	70.5%	65.5%	69.2%	65.6%	60.7%	57.1%	59.5%
Kootenay Boundary	48.3%	52.7%	57.9%	57.7%	53.5%	55.9%	46.5%	56.3%	52.1%
Okanagan	59.4%	61.3%	64.4%	66.4%	66.6%	66.6%	64.0%	64.3%	61.9%
Thompson Cariboo Shuswap	69.6%	67.4%	75.9%	74.6%	74.3%	74.9%	69.8%	70.6%	71.4%
FRASER	61.6%	59.4%	68.4%	68.7%	71.0%	69.9%	69.1%	69.6%	70.1%
Fraser East	55.5%	52.2%	60.9%	62.5%	63.6%	61.6%	57.5%	57.1%	58.2%
Fraser North	62.1%	61.3%	66.9%	66.7%	70.9%	68.2%	65.7%	68.8%	68.6%
Fraser South	63.8%	61.0%	72.4%	72.6%	74.0%	73.9%	75.4%	75.1%	75.5%
VANCOUVER COASTAL	59.0%	59.7%	68.9%	69.9%	66.2%	64.5%	66.4%	66.4%	66.7%
Richmond	70.3%	68.5%	77.2%	76.9%	71.7%	61.4%	74.8%	74.4%	68.4%
Vancouver	55.3%	56.4%	67.7%	66.9%	66.1%	64.4%	64.3%	65.9%	67.7%
North Shore / Coast Garibaldi	58.8%	59.1%	65.8%	70.5%	62.8%	66.2%	65.2%	62.7%	64.2%
VANCOUVER ISLAND *	65.7%	59.1%	67.2%	67.4%	67.4%	54.3%	54.3%	65.6%	60.8%
South Vancouver Island	67.3%	62.5%	68.8%	72.2%	67.3%	51.2%	55.6%	67.5%	63.1%
Central Vancouver Island	66.7%	56.7%	65.6%	62.4%	68.4%	57.2%	52.9%	65.2%	57.4%
North Vancouver Island	59.3%	55.7%	66.2%	65.4%	65.2%	56.8%	53.5%	60.9%	61.5%
NORTHERN	62.9%	59.4%	67.3%	69.7%	68.5%	66.2%	61.1%	62.8%	63.9%
Northwest	67.2%	61.3%	68.8%	71.7%	69.7%	67.7%	67.3%	65.5%	67.6%
Northern Interior	60.2%	61.2%	67.9%	69.9%	69.1%	67.7%	58.9%	65.4%	68.4%
Northeast	64.2%	53.2%	64.6%	67.2%	66.2%	62.0%	59.2%	55.4%	52.3%
BRITISH COLUMBIA *	61.8%	59.9%	68.2%	68.7%	68.8%	65.8%	64.8%	67.1%	66.5%

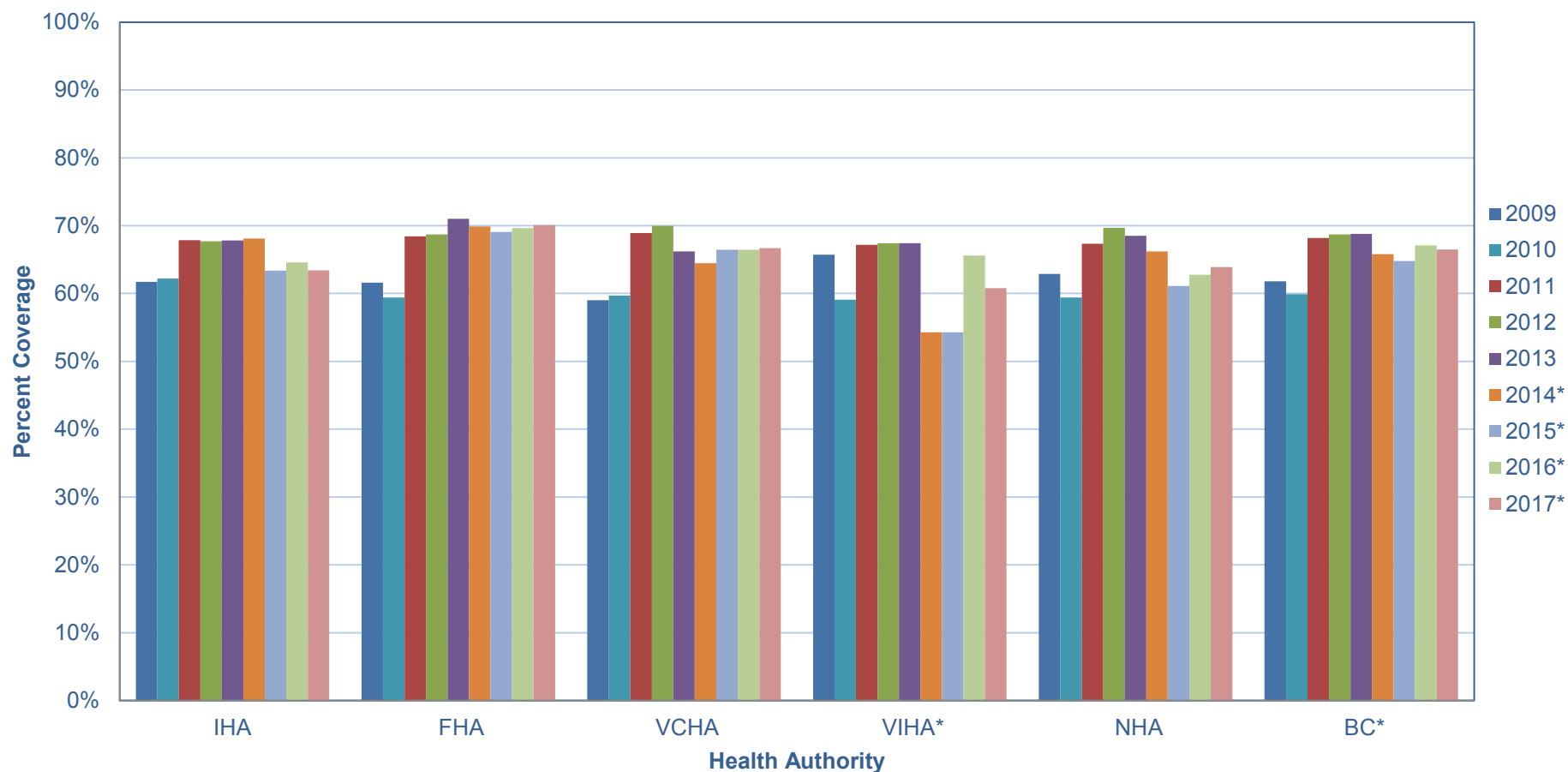
See data sources and notes on accompanying cover pages.

* The 2014 to 2017 VIHA and BC estimates are not directly comparable to previous years. See Note #5, page 2.

HPV coverage in Grade 6 girls in BC was 61.8% in the first year of the program, then dropped slightly to 59.9% in the 2009/10 school year. The drop in coverage during the 2009/10 school year was believed to be a result of re-allocating resources usually used to follow-up with school-based immunization to the influenza H1N1 pandemic response. The percent of Grade 6 girls up-to-date for HPV increased in 2011-2013; some of this increase is likely due to the changing requirements (only 2 doses are required by the end of Grade 6). When compared to 2016 rates, HPV coverage in 2017 increased slightly in NHA (1.1%), FHA (0.5%) and VCHA (0.3%) and decreased in VIHA (4.8%) and IHA (1.2%).

Rates and trends varied by Health Service Delivery Area. In 2017, HPV coverage rates in the Health Service Delivery Areas ranged from 52.1% to 75.5%.

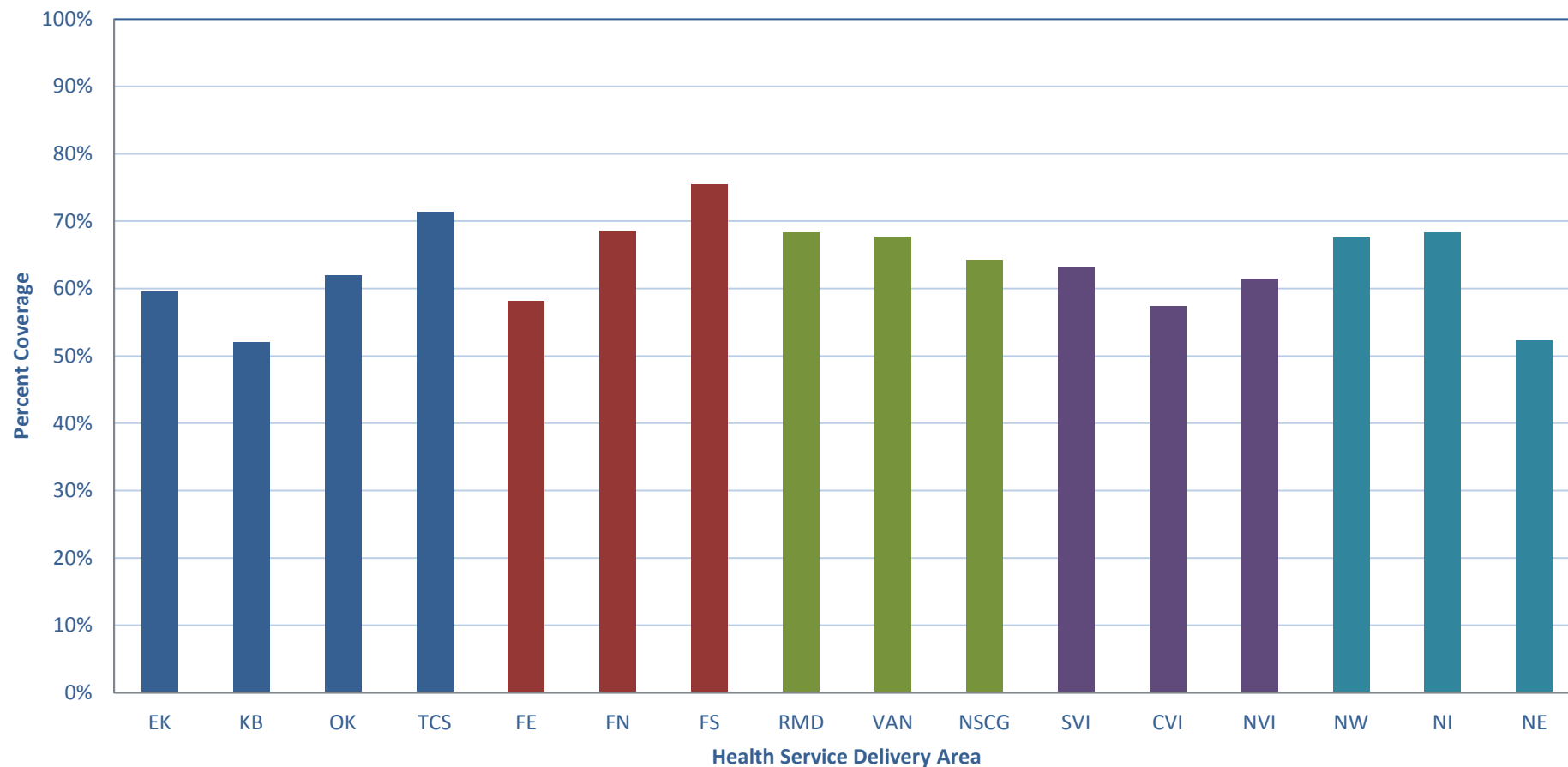
Grade 6 Females with Up-to-date Immunizations, 2009-2017* Human Papillomavirus



See data sources and notes on accompanying cover pages.

* The 2014 to 2017 VIHA and BC estimates are not directly comparable to previous years. See Note #5, page 2.

Grade 6 Females with Up-to-date Immunizations, 2017* Human Papillomavirus



See data sources and notes on accompanying cover pages.

* The 2017 VIHA estimates are not directly comparable to previous years (see Note #5, page 2).

Grade 6 Students with Up-to-date Immunizations: Meningococcal C

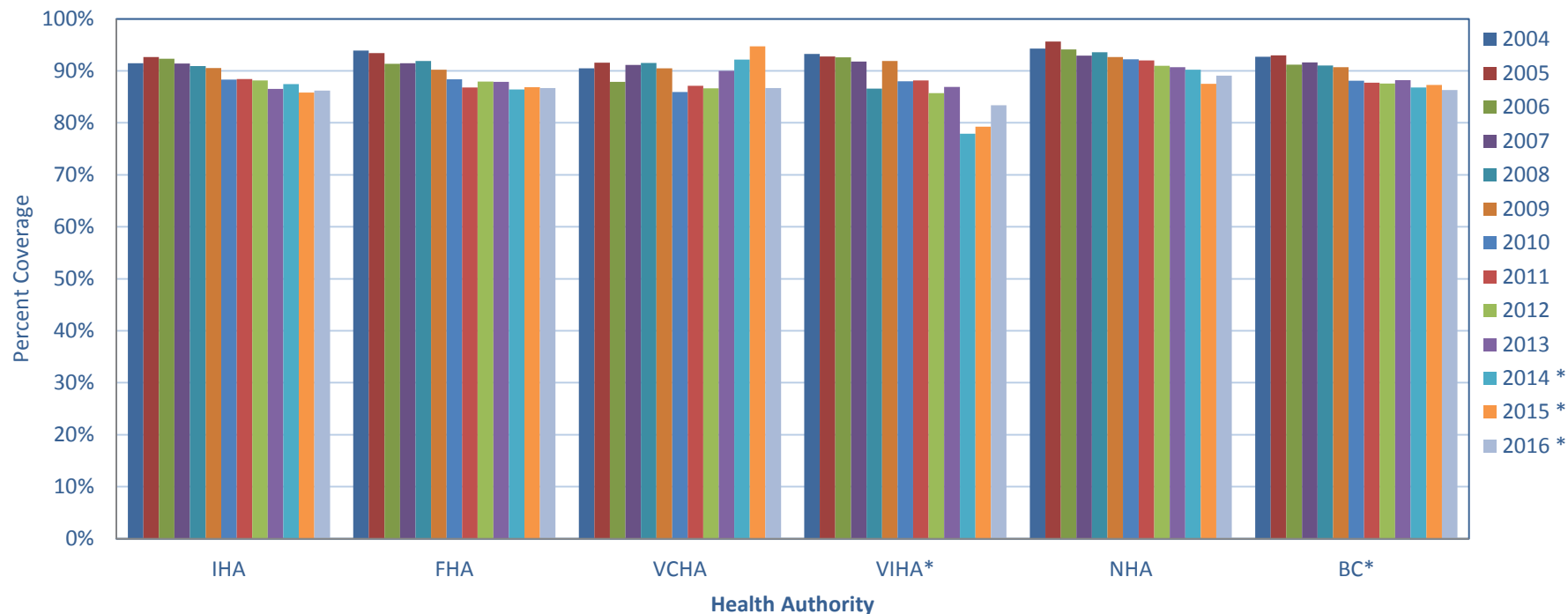
HEALTH AUTHORITY / HEALTH SERVICE DELIVERY AREA	YEAR												
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 *	2015 *	2016 *
INTERIOR	91.4%	92.7%	92.3%	91.4%	90.9%	90.5%	88.3%	88.4%	88.2%	86.5%	87.4%	85.8%	86.2%
East Kootenay	92.6%	94.5%	93.7%	93.7%	93.2%	92.3%	83.2%	89.7%	91.3%	89.4%	88.9%	87.5%	86.8%
Kootenay Boundary	88.8%	86.4%	87.8%	86.9%	82.1%	82.0%	80.8%	80.8%	79.1%	76.7%	78.1%	79.4%	79.9%
Okanagan	88.8%	91.8%	91.2%	91.2%	90.4%	89.6%	87.9%	86.8%	87.2%	85.3%	86.0%	84.7%	85.7%
Thompson Cariboo Shuswap	96.0%	95.6%	94.9%	92.4%	93.6%	94.1%	93.3%	93.1%	91.9%	90.6%	92.1%	89.2%	88.9%
FRASER	93.9%	93.4%	91.3%	91.5%	91.9%	90.2%	88.4%	86.8%	87.9%	87.9%	86.4%	86.8%	86.7%
Fraser East	93.5%	92.6%	89.5%	88.6%	89.1%	85.9%	84.2%	83.3%	85.4%	85.2%	84.4%	84.5%	82.9%
Fraser North	94.9%	93.9%	92.4%	92.3%	92.5%	90.0%	87.8%	87.3%	86.7%	86.0%	84.3%	83.9%	85.2%
Fraser South	93.4%	93.4%	91.2%	92.1%	92.7%	92.1%	90.4%	87.8%	89.7%	90.3%	88.6%	89.7%	89.2%
VANCOUVER COASTAL	90.5%	91.6%	87.9%	91.1%	91.5%	90.5%	85.9%	87.1%	86.6%	90.0%	92.2%	94.7%	86.7%
Richmond	95.2%	95.2%	93.6%	95.3%	95.8%	94.4%	91.6%	94.2%	92.8%	94.5%	95.6%	97.5%	92.7%
Vancouver	91.3%	90.1%	83.9%	89.5%	89.6%	89.8%	83.7%	86.1%	85.6%	89.6%	91.6%	95.1%	84.7%
North Shore / Coast Garibaldi	86.5%	91.8%	91.0%	91.0%	91.6%	89.1%	85.8%	84.6%	84.4%	87.9%	91.0%	92.4%	86.3%
VANCOUVER ISLAND *	93.2%	92.8%	92.6%	91.8%	86.6%	91.9%	88.0%	88.1%	85.7%	86.9%	77.9%	79.3%	83.4%
South Vancouver Island	93.9%	93.3%	93.5%	92.1%	81.0%	91.0%	87.1%	87.6%	87.7%	88.1%	76.1%	79.6%	83.7%
Central Vancouver Island	92.5%	92.5%	93.9%	91.2%	90.1%	94.3%	91.5%	90.1%	82.7%	86.0%	81.4%	80.1%	84.5%
North Vancouver Island	93.1%	92.0%	87.7%	92.3%	92.0%	89.2%	83.6%	85.6%	86.8%	85.6%	75.9%	76.7%	80.2%
NORTHERN	94.3%	95.6%	94.1%	92.9%	93.6%	92.6%	92.2%	92.0%	91.0%	90.7%	90.2%	87.5%	89.1%
Northwest	93.4%	94.6%	93.1%	94.7%	93.4%	90.5%	90.6%	91.4%	90.6%	91.0%	91.8%	89.8%	89.6%
Northern Interior	95.6%	96.5%	94.9%	91.8%	93.7%	94.2%	94.5%	93.2%	92.9%	91.6%	91.4%	86.9%	91.0%
Northeast	92.7%	94.8%	93.6%	93.3%	93.7%	91.7%	89.0%	90.2%	88.0%	88.6%	86.3%	86.3%	84.9%
BRITISH COLUMBIA *	92.7%	93.0%	91.2%	91.6%	91.0%	90.7%	88.1%	87.7%	87.6%	88.2%	86.8%	87.3%	86.3%

See data sources and notes on accompanying cover pages.

* The 2014 to 2016 VIHA and BC estimates are not directly comparable to previous years. See Note #4, page 2.

The Grade 6 meningococcal C conjugate immunization program was discontinued in June 2016 and the Grade 9 meningococcal quadrivalent conjugate immunization program was started in September 2016. Uptake rates for the new program are included in the Grade 9 results for 2017.

Grade 6 Students with Up-to-date Immunizations, 2004-2016 Meningococcal C Vaccine



See data sources and notes on accompanying cover pages.

* The 2014 to 2016 VIHA and BC estimates are not directly comparable to previous years. See Note #4, page 2.