

Vaccine Preventable Disease Monitoring Report Human Papillomavirus, 2015 and 2016

Report release date: March, 2017

Purpose:

The Saskatchewan Ministry of Health's Population Health Branch provides routine surveillance of notifiable diseases at the provincial and regional health authorities (RHAs), First Nations and Inuit Health Branch Saskatchewan (FNIHB-SK) Region and Northern Inter-Tribal Health Authority (NITHA) levels.

This report presents the most recent data for reportable communicable diseases as collected by the Integrated Public Health Information System (iPHIS) and immunization coverage information as collected by the Saskatchewan Immunization Management System (SIMS) and Panorama. Limitations associated with these systems have been described elsewhere.

Report Features:

Background
Epidemiological Summary
Vaccine Coverage by RHA

Prepared by:

Population Health Branch,
Saskatchewan Ministry of Health.

Contact:

Val Mann, PhD
Chief Population Health
Epidemiologist,
Population Health Branch,
Saskatchewan Ministry of Health
email: cdc@health.gov.sk.ca

Background

Human papillomavirus (HPV) is a group of more than 100 related viruses, each identified by a number representing their type. The virus was named for the warts (papillomas) that some types of HPV cause. There are over 40 types that can be sexually transmitted and 25 types are known to cause cancer.

HPV is one of the most common sexually transmitted infections (STIs). It is estimated that 75% of sexually active females and males will have at least one HPV infection during their lifetime, with the highest prevalence observed in women aged 20-24 years. HPV can cause mouth, nose, throat and anal cancers in males and females, cervical and vaginal cancers in females and penile cancer in males. HPV can also cause genital warts in females and males.

HPV is spread through intimate skin to skin contact. An infected person may not have any signs or symptoms, but can still spread the virus. In most people, HPV infection will clear on its own. Infections that do not clear can lead to cancer. It can take years after being exposed to HPV for someone to show signs of infection, making it difficult to know when the exposure occurred.

Every year, approximately 17,600 women and 9,300 men in the United States are affected by cancers caused by HPV. Similar data are not available in Canada as HPV is not a nationally notifiable disease.

Immunization

Since 2008, all provinces and territories have offered HPV immunizations for pre-adolescent and adolescent girls. The vaccine is not recommended for those younger than nine years.

The Saskatchewan Routine Childhood Immunization Schedule provides HPV vaccine to girls in Grade 6 and beginning in the fall of 2017, the Saskatchewan Ministry of Health is expanding the current HPV immunization program to include Grade 6 boys.

For the first year of its addition to the schedule in 2008, the vaccine was offered to girls in both Grades 6 and 7. The quadrivalent HPV vaccine was given as a three-dose series with a zero, two and six month schedule. In 2015/16 Saskatchewan switched to a two-dose schedule. In September 2017, Saskatchewan will replace the

quadrivalent HPV vaccine with the nine-valent HPV vaccine.

HPV vaccines are highly effective, however, like other vaccines they may not fully protect everyone who gets immunized and will not provide protection against every type of HPV. Cervical screening continues to be recommended regardless of vaccine history.

Surveillance

The Public Health Act, 1994 does not require health care providers to report cases of human papillomavirus to the local medical health officer (MHO). Reporting is not required by the Saskatchewan Disease Control Laboratory (SDCL) to the Chief and Deputy Chief Medical Health Officers.

As human papillomavirus cases are not reportable, there is no provincial surveillance case definition for human papillomavirus.

EPIDEMIOLOGY AND VACCINE COVERAGE SUMMARY

Human papillomavirus (HPV) in Saskatchewan:

- HPV cases are not reported in Saskatchewan; therefore, case counts and case characteristics are not available.

Table 1: Female HPV vaccine coverage by year

Age	Doses	2016	2015	2014	2013	2012
13 years	1	75.7%	77.0%	79.8%	80.2%	79.5%
	2	71.9%	74.5%	77.8%	78.5%	77.1%
	3	61.4%	68.7%	72.8%	73.5%	72.7%
15 years	1	82.8%	81.8%	83.5%	81.5%	79.6%
	2	80.4%	80.2%	81.5%	79.7%	77.7%
	3	77.2%	77.4%	78.5%	76.6%	74.5%
17 years	1	83.0%	80.8%	80.0%	74.4%	14.7%*
	2	81.2%	79.2%	78.5%	73.1%	13.5%*
	3	78.2%	75.7%	75.4%	70.3%	12.0%*

*Immunization records may be incomplete for children born prior to 1996. Therefore, the coverage rate for 17-year-old adolescents may not reflect actual provincial or RHA rates.

- From 2012 to 2016, while provincial coverage rates steadily improved for 15 and 17-year-old girls, they steadily declined for 13-year-old girls.
- In the two most recent years, there was marginal improvement in coverage in all dose categories from 2015 to 2016, except three doses at 15 years, for both 15- and 17-year-old teens but decreased for 13-year-old teens. On average, coverage rates improved by 0.4% and 2.8% for 15-year-old and 17-year-old teens respectively while declining by 5.3% for 13-year-old teens.

VACCINE COVERAGE SUMMARIES

Table 2: HPV Vaccine Coverage by Health Region, 2016 (selected age & dose)

Health Region, by Peer Group	Immunization coverage - female only (% immunized), by age and dose								
	13 years			15 years			17 years		
	1 dose	2 doses	3 doses	1 dose	2 doses	3 doses	1 dose	2 doses	3 doses
Saskatchewan	75.7	71.9	61.4	82.8	80.4	77.2	83.0	81.2	78.2
Peer Group A									
Regina Qu'Appelle	78.5	75.3	64.5	84.8	83.5	80.5	85.0	83.1	80.7
Saskatoon	76.0	72.8	61.7	83.4	80.6	76.2	82.8	81.0	77.7
Peer Group D									
Cypress	67.9	66.3	60.5	75.9	73.5	71.2	76.1	74.6	73.2
Five Hills	73.3	69.5	62.7	83.8	81.8	78.9	87.1	86.8	84.3
Heartland	75.0	73.4	64.8	83.9	82.2	80.9	81.7	81.0	77.2
Kelsey Trail	76.0	75.1	66.7	84.1	82.8	80.7	85.6	85.2	84.8
Sun Country	78.0	76.0	70.5	86.2	84.9	83.2	84.8	83.5	81.3
Sunrise	77.9	75.6	64.7	85.5	83.5	81.4	86.4	84.8	82.3
Peer Group F									
Athabasca Health Authority	95.5	86.4	68.2	93.5	93.5	93.5	100.0	100.0	84.0
Keewatin Yatthé	67.6	55.9	38.2	82.9	80.3	72.4	82.4	79.7	73.0
Mamawetan Churchill River	76.5	60.2	35.7	75.0	59.4	56.3	83.5	74.8	63.3
Peer Group H									
Prairie North	68.8	61.8	52.6	77.3	74.0	71.4	76.4	74.2	70.3
Prince Albert Parkland	74.3	67.0	53.0	77.8	74.0	70.4	79.8	78.4	74.9

Table 3: HPV Vaccine Coverage by Health Region, 2015 (selected age & dose)

Health Region, by Peer Group	Immunization coverage - female only (% immunized), by age and dose								
	13 years			15 years			17 years		
	1 dose	2 doses	3 doses	1 dose	2 doses	3 doses	1 dose	2 doses	3 doses
Saskatchewan	77.0	74.5	68.7	81.8	80.2	77.4	80.8	79.2	75.7
Peer Group A									
Regina Qu'Appelle	77.0	74.6	70.7	82.9	81.8	79.1	83.9	82.4	79.8
Saskatoon	77.0	74.2	67.2	82.4	81.1	78.3	77.2	75.9	72.1
Peer Group D									
Cypress	77.1	76.3	73.7	76.7	74.7	74.3	79.5	77.5	76.7
Five Hills	80.3	79.0	75.9	79.7	79.0	77.3	77.8	76.2	75.2
Heartland	71.6	71.6	68.1	84.1	84.1	83.7	78.0	76.6	68.1
Kelsey Trail	80.6	79.6	76.7	82.1	81.6	79.6	85.9	84.3	82.7
Sun Country	81.4	80.5	76.2	81.5	81.0	78.6	85.6	85.0	82.4
Sunrise	80.7	78.9	77.1	86.6	83.6	79.1	81.7	80.7	78.1
Peer Group F									
Athabasca Health Authority	87.0	87.0	56.5	95.7	95.7	87.0	93.3	93.3	80.0
Keewatin Yatthé	76.4	68.1	48.6	76.8	73.9	66.7	83.6	83.6	77.0
Mamawetan Churchill River	78.3	70.3	51.4	80.5	68.4	63.2	75.2	69.4	55.4
Peer Group H									
Prairie North	72.1	69.6	62.9	77.9	76.1	72.8	81.0	78.9	74.8
Prince Albert Parkland	74.2	69.5	60.5	79.7	77.2	73.8	81.9	79.1	76.0

- Two years of coverage data in nine age-dose categories are provided by RHA. A yellow highlighted cell means the RHA's coverage rate is below the provincial coverage rate.
- HPV vaccine was added to the publicly-funded immunization program on September 1, 2008 for Grade 6 girls. During the first year, the vaccine was offered to girls in both Grades 6 and 7 and was given as a three-dose series.
- On September 1, 2015, Saskatchewan switched to a two-dose series. Girls immunized in 2015/2016 received a maximum of two doses. The youngest birth cohort offered the two-dose series that year was born in 2004 and is not shown in the above tables because the cohort does not turn 13 until 2017.
- Most of those in the above tables would have been offered the three-dose series. If they had delayed their HPV immunization until 2015-2016, they may have received the two-dose series.
- Regina Qu'Appelle, Kelsey Trail and Sunrise health regions reported coverage rates above the provincial average for all age-dose categories for all years. In 2016, Regina Qu'Appelle, Kelsey Trail, Sun Country, Sunrise health regions and Athabasca Health Authority reported coverage rates above the provincial average for all age-dose categories.
- Coverage rates for health regions in Peer Groups F and H should be interpreted with caution (see Data Notes).

SURVEILLANCE CASE DEFINITION:

Human papillomavirus cases are not reported in Saskatchewan; therefore, a surveillance case definition is not available.

DATA NOTES

There are 10 peer groups used by Statistic Canada, each identified by a letter (A to J). A peer group consists of health regions with similar socio-economic characteristics which facilitates comparisons within a peer group. The twelve health regions and one health authority in Saskatchewan fall into four groups identified by letters A, D, F and H.

Vaccine Coverage Data Source: The Saskatchewan Immunization Management System (SIMS) is a client-based registry recording vaccines delivered by regional public health services. It does not include vaccines delivered out of province or by First Nations communities that declined to use SIMS. Immunization data from Keewatin Yatthé and Mamawetan Churchill River health regions and historical data from Athabasca Health Authority are incomplete. As a result, this report does not provide immunization coverage for the entire provincial or regional populations.

Panorama is a comprehensive, integrated public health information system. Of the five modules in the system, two have been implemented: vaccine inventory and immunization. When fully functional, it will help public health professionals work together to effectively manage vaccine inventories, immunizations, investigations, outbreaks and family health. Panorama's immunization module replaced the former Saskatchewan Immunization Management System (SIMS), on January 27, 2015. SIMS had been used province-wide since 2001. To learn more, please visit: www.ehealthsask.ca/services/panorama/Pages/default.aspx.

Most FNIHB and NITHA communities, with the exception of those in the Athabasca Health Authority (AHA), are not currently using Panorama. Therefore, immunization data for most First Nations children are missing or are incomplete. This report includes only those children with Saskatchewan health coverage and registered in Panorama under a health region jurisdiction as of January 12, 2017. In other words, children with Saskatchewan health coverage and registered in Panorama under FNIHB or NITHA jurisdiction are excluded (including those from FNIHB and NITHA communities in AHA). This means this report does not include coverage statistics for the entire provincial or regional population.

HPV vaccine is administered as a two-dose series of quadrivalent (HPV-4) and can be administered at the same time as other age-appropriate vaccines such as adolescent and adult formulations of tetanus-diphtheria-acellular-pertussis (Tdap), hepatitis B and meningococcal conjugate vaccines. Immunization coverage is based on those who turned 13, 15 & 17 years by December 31 in 2015 and 2016. For example, the immunization coverage for 13-year-old children in 2016 is based on adolescents who were born in 2003 and their immunization doses received by their 13th birthday.