



Immunizations in the SWPH Region

Health Status Report
Southwestern Public Health
April 2025

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How to cite this document:

Santos J. Immunizations in the SWPH region. Woodstock, ON: Southwestern Public Health; 2025.

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Summary

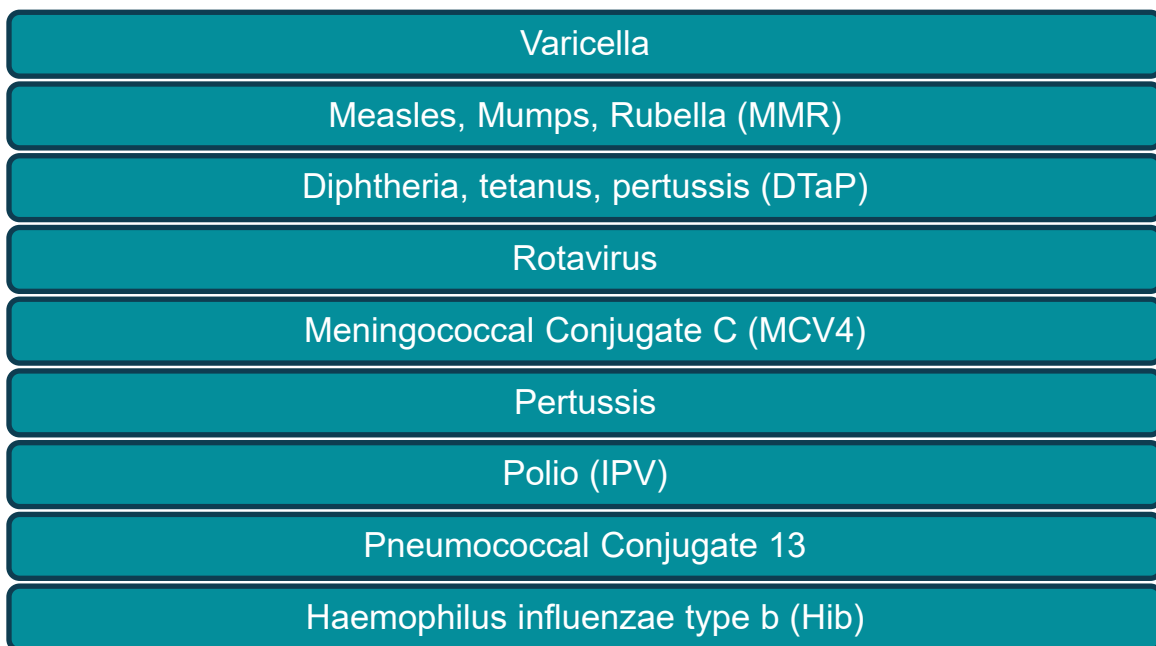
- The impact of the COVID-19 pandemic on local immunization coverage for many important vaccines is evident.
 - Vaccine coverage for nearly all diseases of public health significance (DoPHS) decreased in the 2020/2021 school year.
 - Following the 2021/22 school year, coverage began to increase, namely for the measles, mumps and rubella vaccine (MMR) in 7-year-olds and the diphtheria, tetanus and pertussis vaccine (DTaP) in 17-year-olds.
- Vaccination catch-up clinics organized and run by Southwestern Public Health were effective in getting many children up-to-date on their vaccinations over a couple of school years (2021/22 & 2022/23).
- Since the COVID-19 pandemic, there hasn't been much change in the number of local children with recorded vaccine exemptions, but the total remains higher compared to pre-pandemic.
 - The most exemptions are for the MCV4 vaccination for 12-year-olds (7% of age-appropriate students in the 2023/24 school year). This vaccine protects against meningococcal diseases (A, C, W, and Y).
- In the past, vaccine coverage for Hepatitis B, MCV4, and human papillomavirus (HPV) among local 12-year-olds has been higher locally compared to Ontario. Recent declines in all three vaccines in the SWPH region have resulted in coverage rates that are similar to Ontario as of the 2023/24 school year.
- The majority of COVID-19 vaccines locally are now being administered to residents and staff of local long term care homes (LTCHs) and rates remain higher among SWPH residents compared to Ontario.
- The respiratory syncytial virus (RSV) vaccine has had good coverage for its first year (2023/24 respiratory season) with over 80% of residents of local LTCHs being vaccinated.

Vaccines and Diseases of Public Health Significance

Immunizations in Ontario

In Canada, updated immunization programs have been in place since 2000, with each province having their own slightly different schedules of implementation.¹ In Ontario, the vaccines necessary for protection against vaccine preventable diseases are listed below (**Figure 1**).^{1,2}

Figure 1.
Publicly Funded Routine Immunizations for Infants in Ontario



Varicella
Measles, Mumps, Rubella (MMR)
Diphtheria, tetanus, pertussis (DTaP)
Rotavirus
Meningococcal Conjugate C (MCV4)
Pertussis
Polio (IPV)
Pneumococcal Conjugate 13
Haemophilus influenzae type b (Hib)

In addition to the vaccine schedules in **Figure 1**, there are also other vaccines that are administered routinely, one of which being for protection against the human papillomavirus (HPV). Southwestern Public Health (SWPH) runs in-school vaccination clinics for HPV as well as Hepatitis B (HepB) and Meningococcal conjugate vaccine (MCV4). As such, trends for these three will be summarized separately in this report.

Childhood Immunization Coverage

Children who attend either primary or secondary school in Ontario are required to be up-to-date (i.e. be vaccinated) or have a valid exemption for vaccines that are a part of the publicly funded immunization schedule in Ontario (**Figure 1**).³ The majority of these vaccines are administered by family physicians or nurse practitioners, but SWPH also provides fall vaccination clinics to help support any students who may have fallen behind on vaccinations or who do not have access to a family doctor. Immunization coverage for each of these vaccines is summarized in the remainder of this section.

Measles, Mumps and Rubella (MMR) Vaccine

Since the 2019/20 school year, the proportion of students (7-year-olds) who were up-to-date on their measles, mumps, and rubella (MMR) immunization declined slightly over time (**Figure 2**). This was despite the catch-up programs that were intended to get school-aged children up-to-date after the delays caused by the COVID-19 pandemic.



Data source:
Public Health Ontario.
Immunization
coverage report for
school pupils in
Ontario. 2024

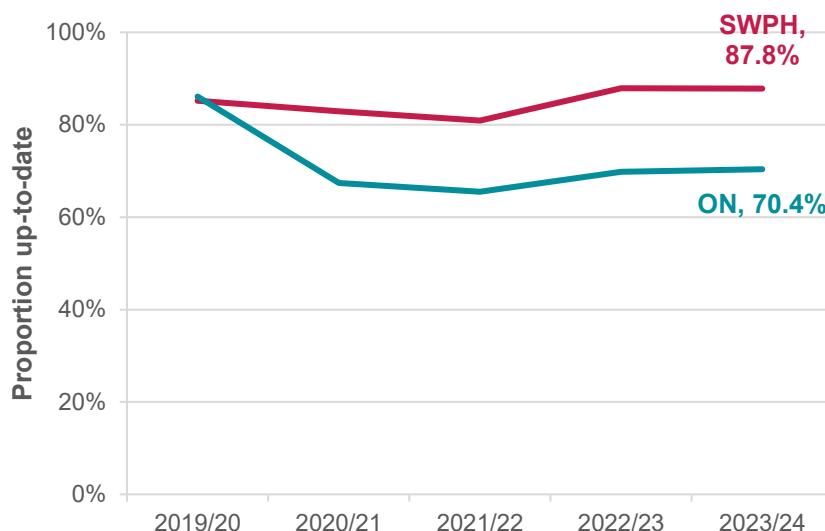
Table 1. Proportion (%) of children up-to-date on measles, mumps & rubella coverage, SWPH & ON, 2023/24 school year

Antigen	7-year-olds		17-year-olds	
	SWPH	ON	SWPH	ON
Measles	87.8%	70.4%	93.5%	91.6%
Mumps	87.8%	70.2%	93.5%	91.3%
Rubella	91.2%	85.2%	94.7%	93.7%

In the 2023/24 school year, coverage for the MMR vaccine among 7-year-olds in the SWPH region was significantly higher compared to 7-year-olds in Ontario (**Table 1**).

Figure 2

The proportion of 7-year-olds who are up-to-date on measles & mumps immunizations increased again after the COVID-19 pandemic.



Diphtheria, Tetanus and Pertussis (DTaP) and Polio (IPV) Vaccine

The DTaP vaccine immunizes against diphtheria, pertussis, and tetanus and is first administered in infancy (at 2, 4, 6, and 18 months) in conjunction with protection for polio and *Haemophilus influenzae* type b (DTaP-IPV-Hib). At age 4, children receive a booster for diphtheria, pertussis, tetanus, and polio (Tdap-IPV), followed by a Tdap (only) booster at age 14.² The Tdap vaccine has a full dose of tetanus and lower doses of both diphtheria and pertussis (this is why the acronym differs).

Table 2. Proportion (%) of children who are up-to-date on DTaP, SWPH & ON, 2023/24 school year

Antigen	7-year-olds		17-year-olds	
	SWPH	ON	SWPH	ON
Diphtheria	87.8%	69.9%	81.4%	62.1%
Pertussis	87.8%	69.8%	81.6%	63.0%
Tetanus	87.8%	69.9%	81.4%	62.1%

In the 2023/24 school year, a larger proportion of 7- and 17-year-old children in the SWPH region were up-to-date on the DTaP immunization compared to youth in Ontario (**Table 2**). Coverage among local 7-year-olds in particular was nearly 30 percent higher than 7-year-olds across Ontario.

Since the onset of the COVID-19 pandemic in the 2019/20 school year, DTaP coverage among 7-year-olds in the SWPH region has remained relatively consistent over time (**Figure 3**), while coverage among 17-year-olds declined into the 2022/23 school year (**Figure 4**). Coverage among both age groups declined over time provincially (not shown).

Figure 3

DTaP coverage among 7-year-olds in the SWPH region has remained consistent over time following catch-up activities.

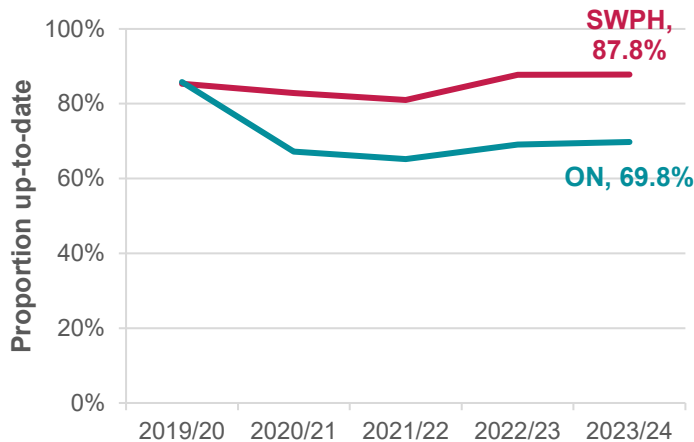
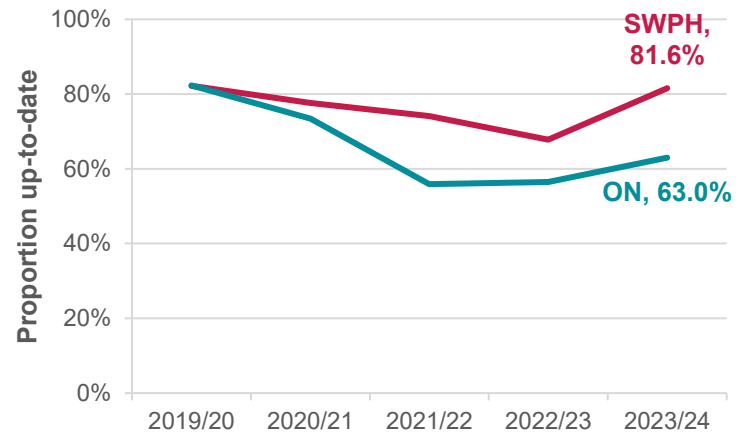


Figure 4

DTaP coverage among 17-year-olds in the SWPH region has declined over time but is still higher in comparison to the province.



School-based Immunization Coverage

Public Health led school-based immunization programs

Maintaining high immunization coverage is essential for the effective prevention and control of vaccine preventable diseases. Public Health Ontario (PHO) leads the provincial surveillance of immunization coverage which includes the annual coverage assessment of school pupils for Ontario's publicly-funded immunization programs.⁴ This data is used to summarize coverage for hepatitis B (HepB), human papillomavirus (HPV), and meningococcal conjugate (MCV4) in this section.

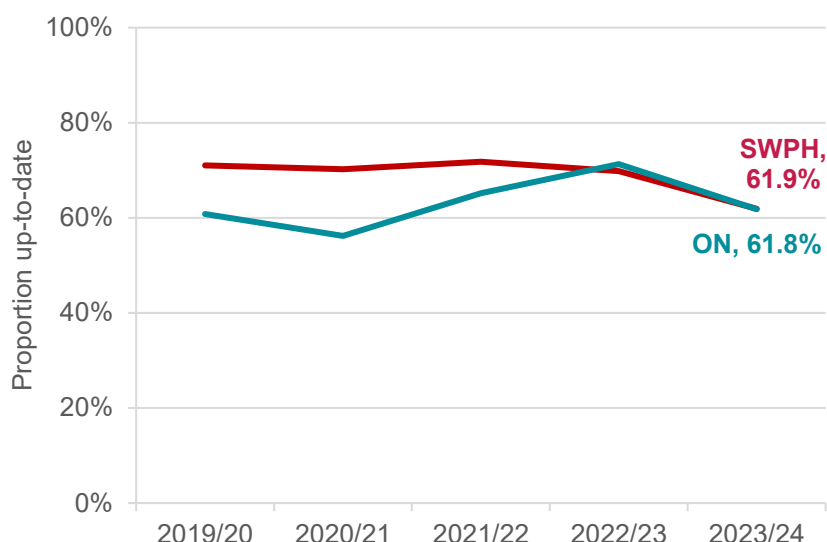
Hepatitis B (HepB)

The immunization coverage for hepatitis B (HepB) has been relatively consistent every school year following catch-up activities between 2019 and 2022. However, coverage decreased by about 10% between the 2022/23 and 2023/24 school years. This trend was evident across both the SWPH region and the province (**Figure 6**).

As of the 2023/24 school year, HepB coverage among children in schools in the SWPH region (12-year-olds) was 61.9%, which is essentially the same in Ontario, at 61.8% (**Figure 6**).

Figure 6

The proportion of students up-to-date on HepB coverage has decreased in recent school years.



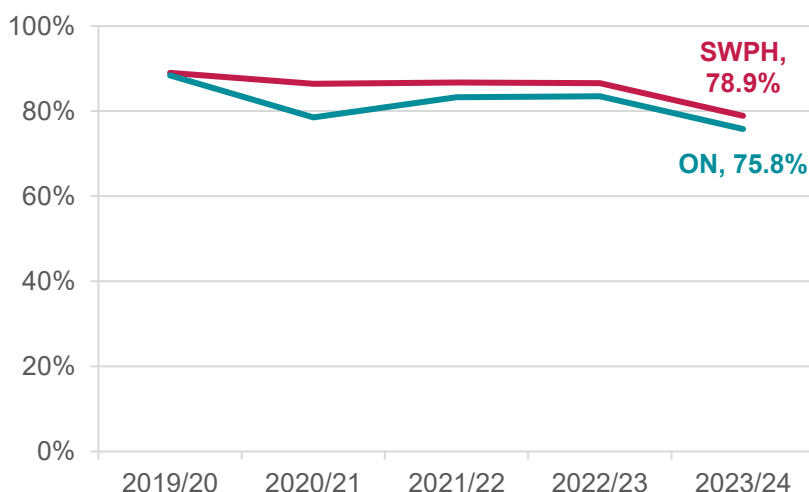
Meningococcal conjugate vaccine (MCV4)

Another vaccine administered by public health via school-based programs is the meningococcal conjugate vaccine (MCV4), which protects against 4 different subgroups of invasive meningococcal disease (A, C, Y, and W). The coverage of MCV4 among 12-year-old school pupils follows a similar trend to the HepB vaccine, decreasing slightly in the 2023/24 school year. However, coverage overall is much higher compared to both the HepB & HPV vaccines as MCV4 is a mandatory vaccine (78.9% for MCV4 versus 61.9% and 53.2% for HepB and HPV vaccines, respectively).

SWPH was able to keep coverage for this vaccine high with catch-up activities. There was only a small decrease evident in the 2023/24 respiratory season (**Figure 7**).

Figure 7

The coverage rate for MCV4 in the SWPH region has remained consistently higher compared to Ontario. There was a slight decrease in coverage in the 2023/24 school year.



Although vaccine coverage for human papillomavirus (HPV) is lower compared to HepB and MCV4, it has remained relatively stable over time. As of the 2023/24 school year, HPV coverage in the SWPH region matched the province with a coverage of 53.2% versus 52.3%, respectively (**Figure 8**).

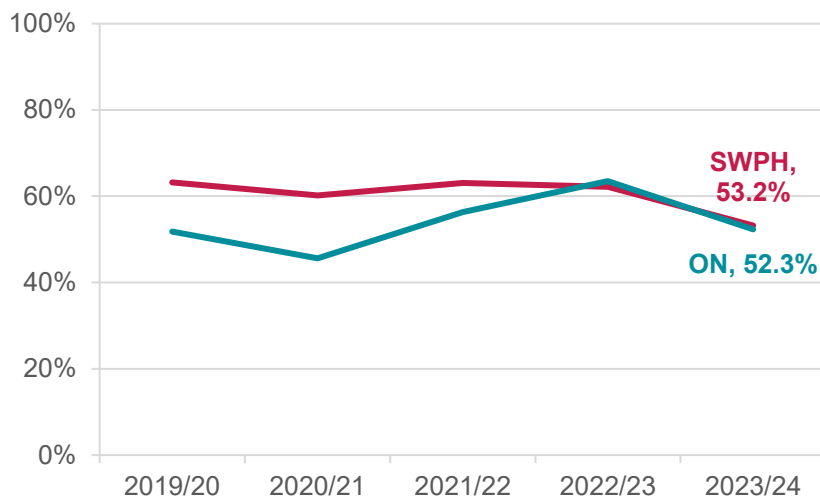


Figure 8

HPV coverage among 12-year-olds in the SWPH region has remained at least 50% over time following catch-up activities, where coverage across Ontario was significantly lower until the 2022/23 school year.

School-based catch-up clinics

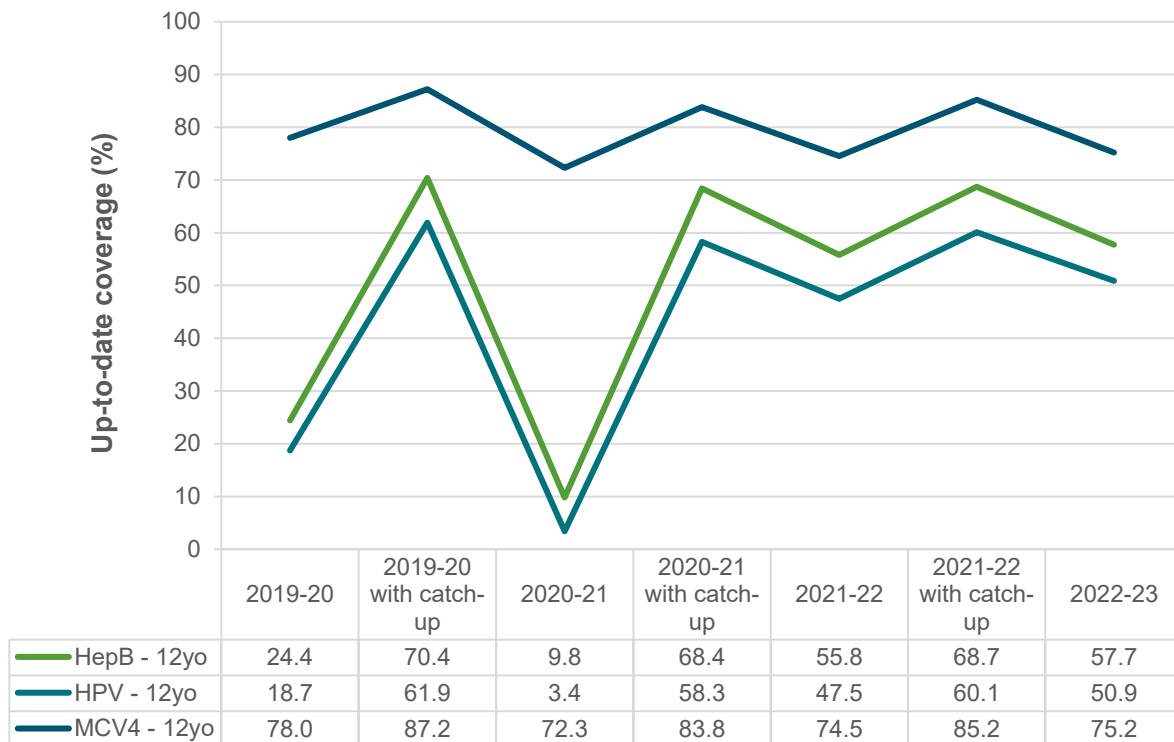
Due to the COVID-19 pandemic, many school-aged children were not up-to-date with their immunizations in accordance with the Immunization of School Pupils Act (ISPA). In an effort to get children back up-to-date and to prevent vaccine preventable diseases (VPDs), public health units continue to hold school-based catch-up programs.⁵ Even before the COVID-19 pandemic, catch-up clinics happened in the days leading up to potential school suspension dates after the process of reviewing of the immunization records of local school-aged children was complete.

SWPH has made significant progress by holding these clinics in local schools, namely coverage for the HepB, HPV, and MCV4 vaccines. Both HepB and HPV (among 12-year-olds) in particular, had coverage that increased by more than 50% between the 2019/20 and 2020/21 school years and by over 10% in the 2021/22 school year (**Figure 9**).

Coverage for other vaccines, including measles, mumps, varicella, and tetanus, also increased anywhere from 3-7% over several school years (2019/20, 2020/21, and 2021/22) following catch-up activities in the community (not shown).

Figure 9

SWPH school-based catch-up clinics have been successfully increasing coverage rates for various vaccine preventable diseases among 12-year-olds each school year between 2019 and 2022.



School suspension letters

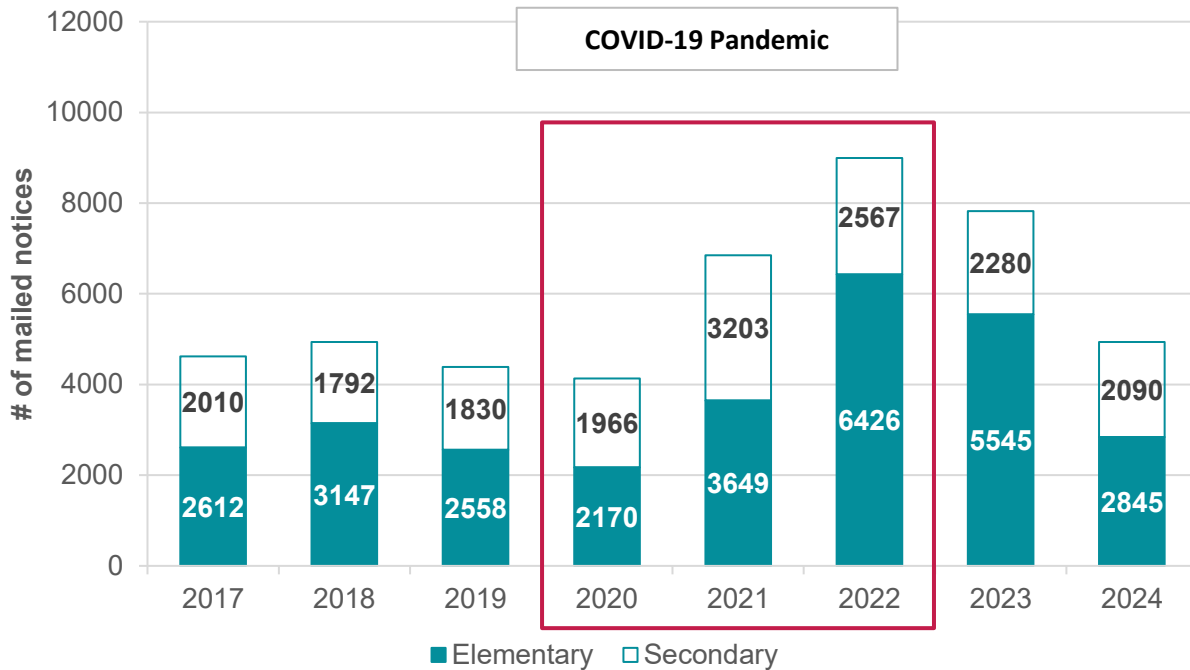
The Immunization of School Pupils Act (ISPA) and the Child Care and Early Years Act (CCEYA) require all children who attend school in Ontario to have up-to-date vaccines and updated records with the Public Health Unit in the region where they reside.

Each school year, vaccine records for children in schools in the SWPH region are reviewed to determine current vaccination status. If a child is not up to date on a vaccine, they receive a notice at school to take home. These notices confirm what information is missing from the child's record and request that the family contact their health care provider to get the required information so it can be reported to public health.

Following the onset of the COVID-19 pandemic, the number of school suspension letters sent out in the SWPH region increased substantially (**Figure 10**). However, following catch-up activities over the last several school years, the number began to decrease in 2023.

Figure 10

The number of suspension notices sent to local children reached a high during the COVID-19 pandemic and remains higher than pre-pandemic as of the 2024/25 school year.



Youth Vaccine Exemptions

Given the *Immunization of School Pupils Act* (1990), the only students able to be exempt from vaccination are students who are able to provide documentation stating the reason for requesting an exemption.⁶ These can be either medical or non-medical, as described below.

1. Medical:

The child has a medical condition that prevents them from receiving the vaccine OR they provide documentation of evidence of immunity to a given agent.

2. Non-medical:

These can either be due to conscience or philosophical/religious beliefs.

Data source: 
Ontario Ministry of Health. Digital Health Immunization Repository.

As of the 2023/24 school year, the proportion of students in the SWPH region with a recorded exemption is relatively low for most ISPA immunizations (around 5% or less), with the highest number of exemptions being for the MCV4 vaccine (7% in the 2023/24 school year).

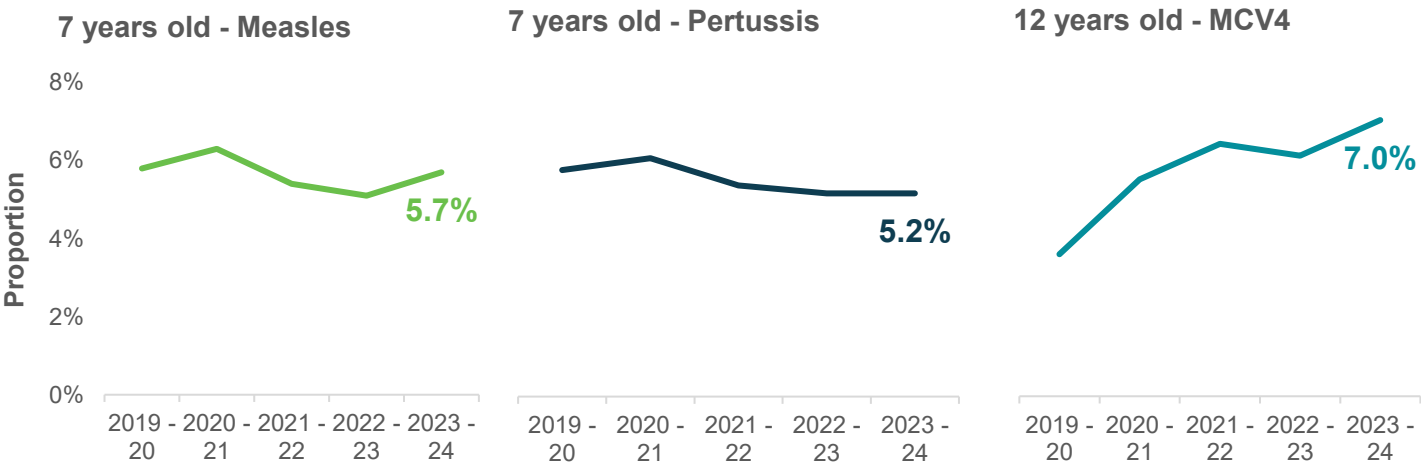
After an initial decrease in the first school year after the onset of the COVID-19 pandemic (2020/21), the proportion of exemptions for both measles (7-year-olds) and MCV4 (12-year-olds) has increased in the most recent completed school year (**Figure 5**).

The majority of exemptions in the region are recorded as philosophical exemptions, accounting for over 90% (in most cases) of all recorded exemptions.

It is important to note that although vaccine exemption data is presented separately from immunization coverage in this report, these two groups are not mutually exclusive (students can have exemptions for some vaccines and still receive others for example). Additionally, only students who attend a school in either the Thames Valley District School Board (TVDSB) or the London District Catholic School Board (LDCSB) were included in these statistics.

Figure 5

The proportion of vaccine exemptions in the SWPH region has remained relatively low overtime, with recent increases being observed in exemptions to the measles (MMR) and MCV4 vaccines.



Respiratory Illness Immunization Coverage

Influenza, COVID-19, and RSV

The seasonal influenza (flu) vaccine is the best way to prevent influenza, which can sometimes lead to complications and severe outcomes such as death; namely, among high-risk individuals. High-risk groups include children and individuals over the age of 65, especially if they are living in long-term care homes (LTCH) or retirement homes (RH).⁷

Those in the high-risk groups for influenza are also at a high risk of complications due to other respiratory viruses, such as COVID-19 and respiratory syncytial virus (RSV). COVID-19 and RSV vaccination programs conducted by SWPH are geared towards these high-risk groups. However, everyone can get a COVID-19 vaccine at their local pharmacy if they choose.⁸ The RSV vaccine was administered in local long term care homes and retirement homes for the first time as of the 2023/24 respiratory season.⁹

Self-reported influenza immunization coverage

The proportion of residents (aged 12 and over) in the SWPH region who reported receiving a seasonal flu vaccine has remained consistent over time, with no significant changes between 2015 and 2020. The proportion of Ontario residents who reported having a flu vaccine has increased slightly year over year (**Figure 11**).

Data source:
Canadian Community Health Survey (CCHS), StatsCan, 2015/16, 2017/18, 2019/20

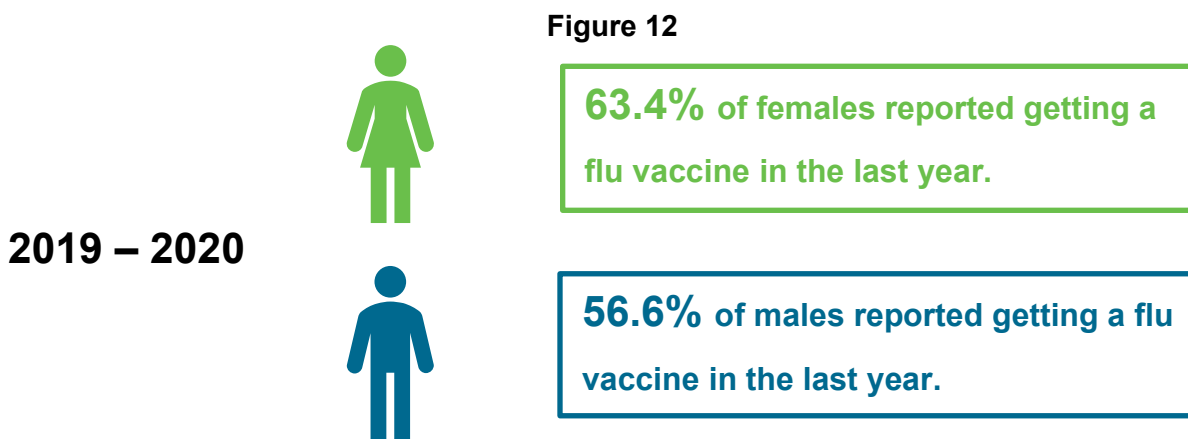
In 2019/20, approximately 51.2% of SWPH residents reported getting a seasonal flu vaccine in the last year, compared to 56.4% in Ontario (**Figure 11**).

Figure 11

Approximately half of residents in the SWPH region report getting a flu vaccine in 2019/20, which remained relatively unchanged since 2015/16.



In the SWPH region, uptake of the influenza vaccine was similar for male and female residents over time, with different trends emerging in the most recent cycle of the CCHS (2019/20). Uptake among females increased slightly over time, while flu vaccine uptake among male residents has decreased. In 2019/20, more female residents reported having received the vaccine compared to male residents (**Figure 12**).



Influenza vaccine 12 and under coverage

In 2019, only about 1 in 6 children under the age of 12 (reported by a person most knowledgeable such as a parent or guardian) had received a flu vaccine in the last year. This was significantly less compared to children in Ontario overall, 26.5% of whom were reported to have had a flu vaccine.

Data source: 
Canadian Health Survey on Children and Youth (CHSCY),
StatsCan, 2019

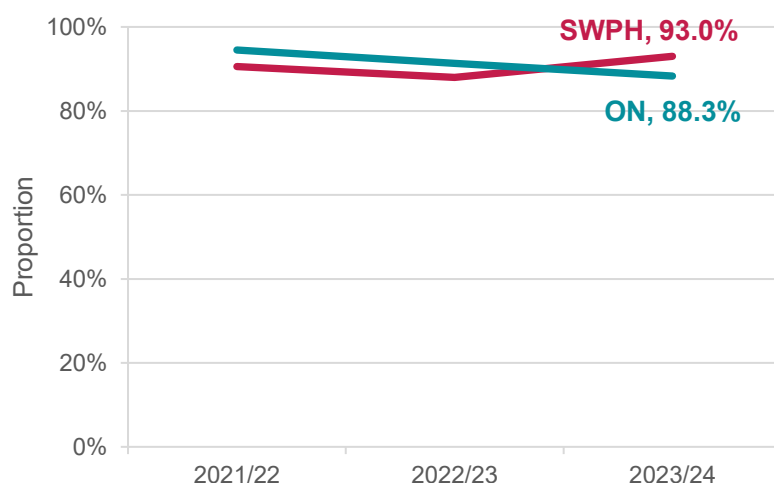
Influenza vaccinations in local long-term care homes & hospitals

More residents of long-term care homes (LTCH) in the SWPH region have been vaccinated against influenza compared to the province as of the 2023/24 respiratory season, with 93% of LTCH residents having received a flu vaccine (**Figure 13**). Locally, this was the first increase in coverage, where provincially, coverage has declined each year, dropping to 88.3% in the 2023/24 respiratory season (**Figure 13**).

Figure 13

The proportion of residents in local LTCHs who have received an influenza vaccine has surpassed Ontario coverage in the most recent respiratory season*.

*with complete data



Data source:

Public Health Ontario (PHO) analysis of Influenza, COVID-19, & RSV (ministry of Health)



Of note:

These proportions represent the median percentage of flu vaccination across all LTCHs in both Oxford County and Elgin St. Thomas.

In contrast to rates among residents, there has been a decreasing trend in the proportion of long-term care home (LTCH) staff who were vaccinated against influenza since the 2021/22 respiratory season for both the SWPH region and the province.

Locally, the proportion of vaccinated LTCH staff decreased from 68.4% to 61.0% between the 2021/22 and 2023/24 respiratory seasons (**Figure 14**).

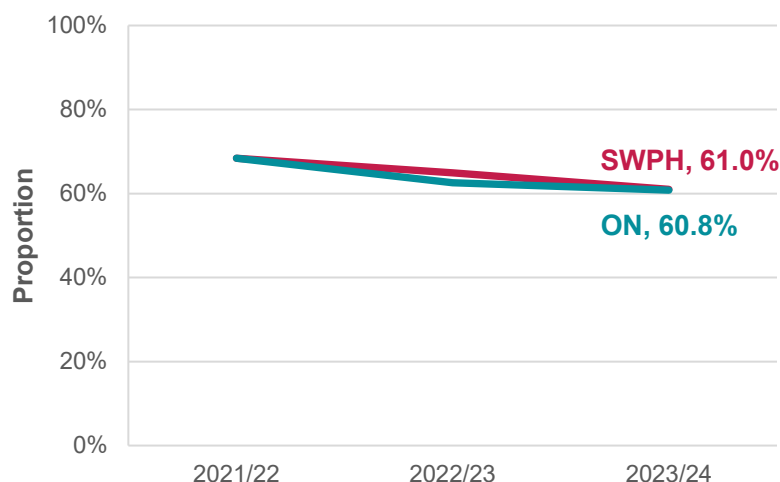


Figure 14

Since the 2021/21 respiratory season, the proportion of staff in LTCHs across the SWPH region and the province who were vaccinated against influenza has decreased each respiratory season.

COVID-19 immunization coverage

As of the 2023/24 respiratory virus season, the COVID-19 immunization program (implemented by the Government Ontario) became focused on high-risk populations, although anyone over the age of 6 months can still get a vaccine via a participating pharmacy. We focus here on uptake among a local high-risk group; staff and residents in long term care homes (LTCH) in the SWPH region.⁸

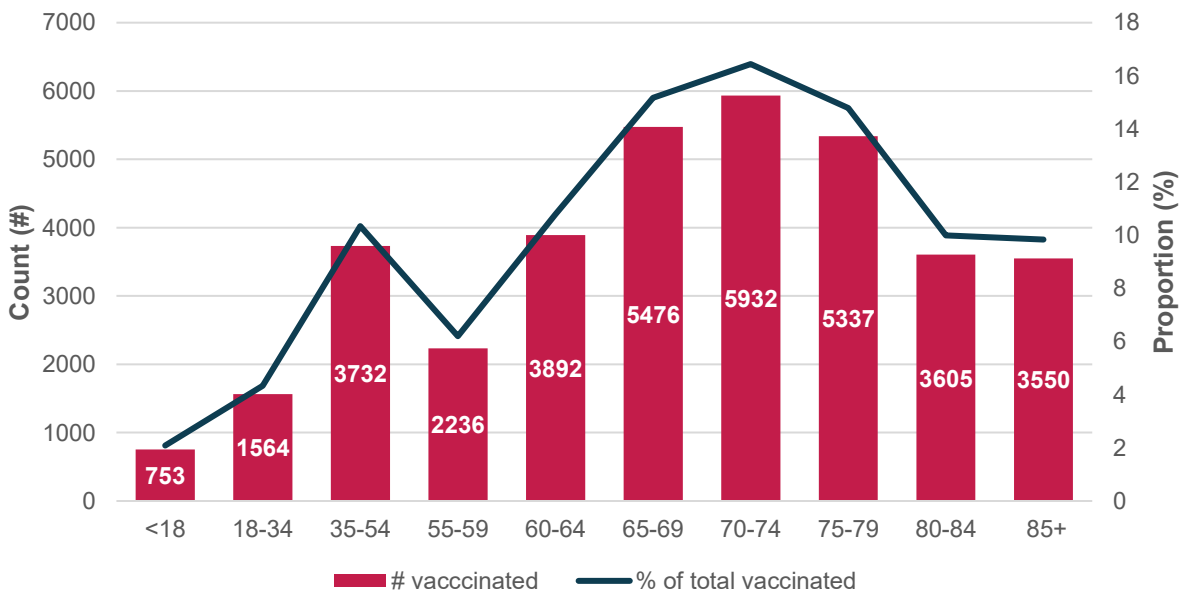
Of all COVID-19 vaccines administered to residents of the SWPH region (between September 14, 2023, and June 30, 2024), only 16% were administered to residents under the age of 55. Residents between the ages of 70 and 74 represented the highest percentage overall (16.4%) (**Figure 15**).



Data source:
Institute for Clinical
Evaluative Sciences
(ICES AHRQ Project
[2021 0950 080 002])

Figure 15

Residents in the SWPH region over the age of 65 represent the highest proportion of all COVID-19 vaccines administered since September 14, 2023.



Respiratory syncytial virus (RSV) vaccination in LTCHs

The 2023/24 respiratory season was the first one in which the RSV vaccine was available to be administered to residents of local LTCHs.⁹ In this first year, over three quarters of residents in the SWPH region received the vaccine, which was higher than the province.

80.3%

SWPH LTCH Residents

73.1%

Ontario LTCH Residents

Conclusion

Coverage for many diseases of public health significance decreased across Ontario due to the COVID-19 pandemic. However, coverage has been increasing again each school year into 2023/24 due in part to local vaccination clinics by SWPH.

Coverage for some vaccines, like HepB, HPV, and MCV4, decreased in the 2023/24 school year. This resulted in the SWPH vaccine coverage dropping to below the coverage across the province.

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