

Immunization of school children in Halton

2017-2018 school year

Introduction

Immunization is one of the best ways to protect our community from vaccine-preventable diseases. The *Immunization of School Pupils Act* (ISPA) requires Ontario students attending school to be immunized against the following:

- Diphtheria
- Tetanus
- Polio
- Measles
- Mumps
- Rubella
- Pertussis (whooping cough)
- Varicella (chickenpox), for children born in 2010 or later
- Meningococcal disease

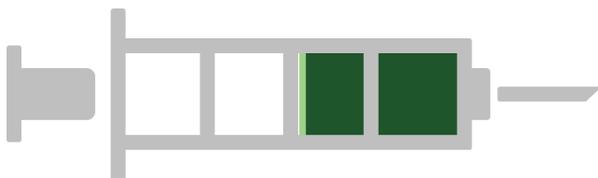
Under the ISPA, students can be suspended from school if their immunization records at their local health department show that they are overdue for vaccination and they do not have a valid exemption.

The purpose of this report is to provide a summary of compliance with the ISPA for the 2017-18 school year among Halton students. The report focuses on students born in 2010 (ages 7 or 8) and 2001 (ages 16 or 17). The Halton Region Health Department sent letters to parents of children in these birth cohorts to remind them to submit their child’s immunization records to the Health Department. The Health Department subsequently carried out a complete enforcement process for 16 or 17 year olds (as well as other high school students), including offering clinics for students behind on their vaccines, and ultimately suspending those remaining non-compliant.

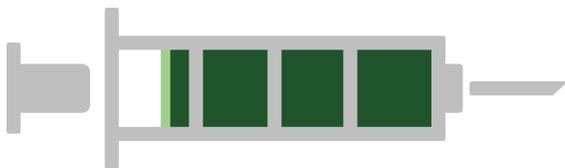
This report also highlights the proportion of students born in 2005 (ages 12 or 13) who completed the vaccine series for vaccination against meningococcal disease, human papillomavirus (HPV), and hepatitis B by the end of the 2017-18 school year. The Ministry of Health and Long-Term Care mandates the Health Department to offer these three vaccines to all grade seven students in Halton schools, free of charge.

ISPA compliance

Overall compliance by birth year



50% ISPA compliant, born in 2010 (age 7 or 8)



88% ISPA compliant,

■ Not overdue ■ Exempt

ISPA compliant means that the student was not overdue for any immunizations required by the ISPA, or had a valid exemption, as of June 28, 2018.

By the end of the 2017-18 school year, the percentage of students fully in compliance with the ISPA was higher among students aged 16 or 17 compared to students aged seven or eight (88% vs. 50%).

The percentage of students with ISPA exemptions was slightly higher for students aged 16 or 17 (3%) compared to students aged seven or eight (2%).

The higher compliance and exemption rates among 16 or 17 year olds likely reflects the fact that in the 2017-18 school year, the Health Department carried out a complete enforcement process for high school students. The process included sending additional reminders, offering catch-up clinics, and ultimately suspending high school students if they did not complete their ISPA-required vaccinations or obtain a valid exemption.

Figure 1: ISPA compliance[†], by birth cohort, Halton Region, 2017-18

By disease and birth year

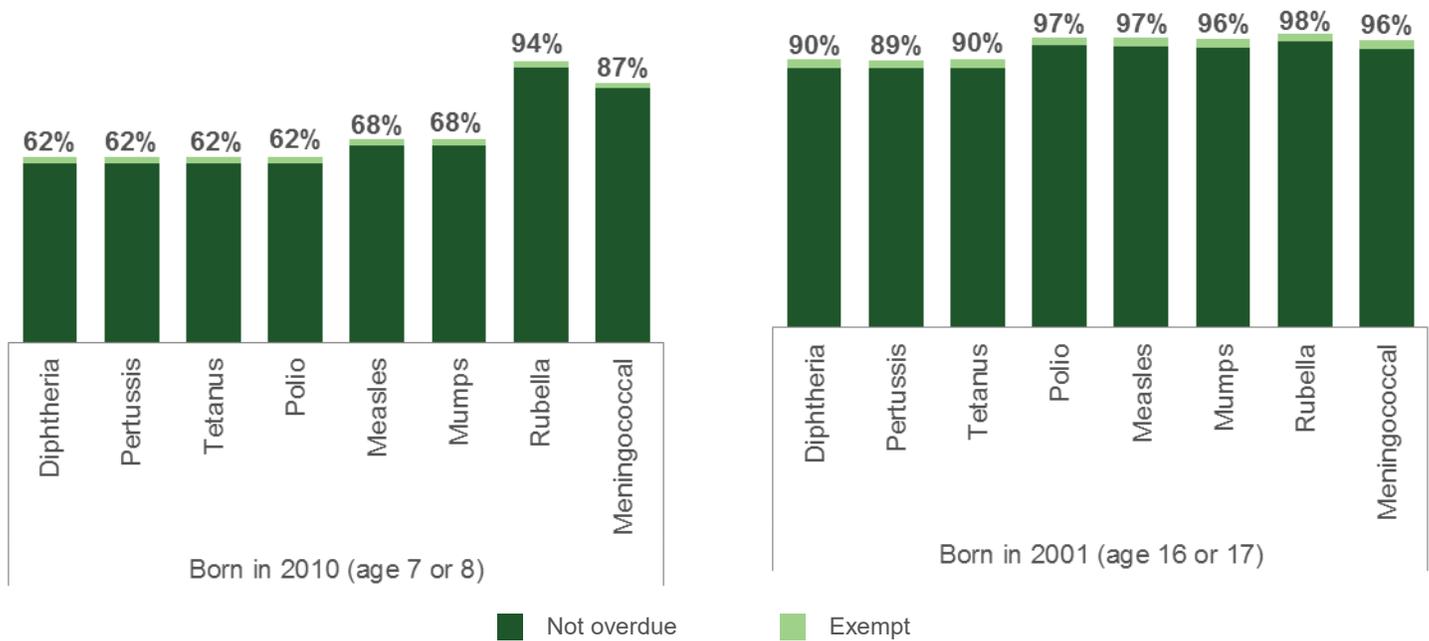


Figure 2: IPSA compliance, by disease and birth cohort, Halton Region, 2017-18

Compliance rates were lowest for diphtheria, pertussis, tetanus, and polio. Students are due for a booster shot against these four diseases between ages four and six, and then an additional booster shot is required ten years later for diphtheria, pertussis, and tetanus. It is possible that compliance rates are lower for these vaccinations because some students may be behind in the vaccination schedule or because their parents may not have reported the recent immunization to the Health Department yet.

By municipality

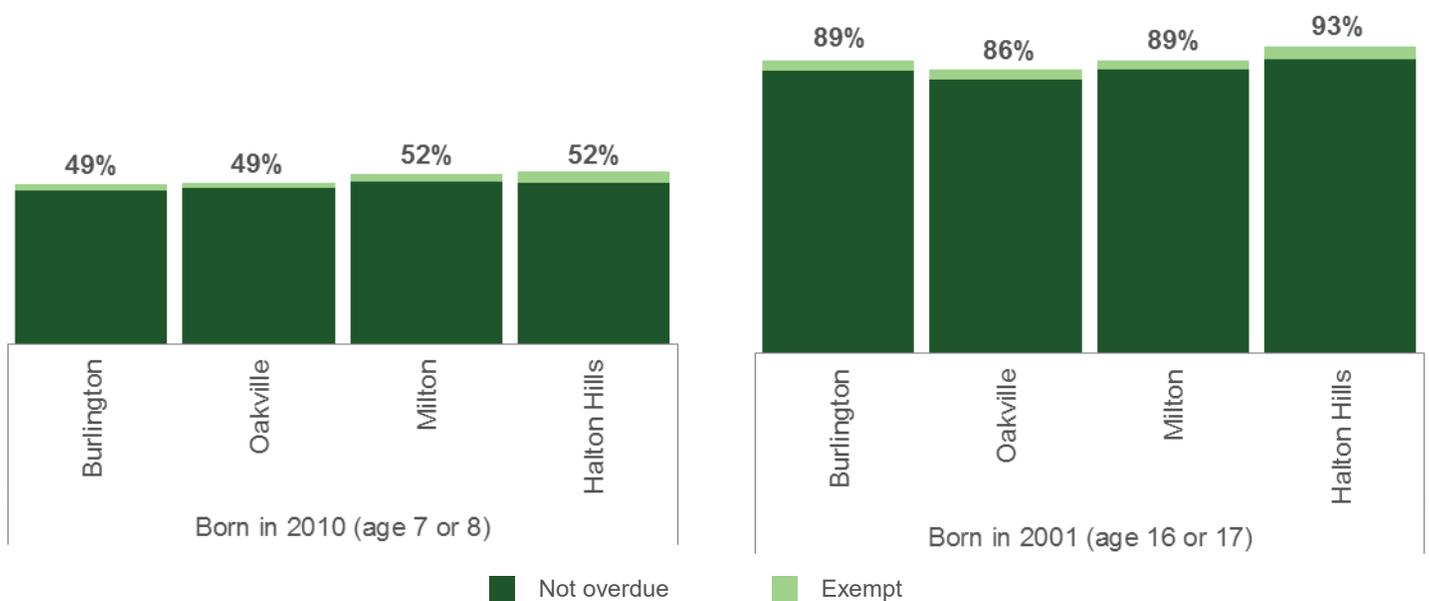


Figure 3: IPSA compliance[†], by municipality and birth cohort, Halton Region, 2017-18

ISPA compliance was statistically significantly higher among students aged 16 or 17 attending schools located in Halton Hills compared to those attending schools in all other municipalities. ISPA compliance was also significantly higher among students aged 16 or 17 attending schools located in Burlington and Milton compared to those attending schools in Oakville. There were no significant differences in ISPA compliance by municipality for students aged seven or eight.

Grade seven vaccination

Completion means that the student received all doses of vaccine required for protection against a given disease by June 28, 2018, with all doses being valid (i.e. administered at the right time).

By disease

Public health staff provide the meningococcal, hepatitis B, and human papillomavirus (HPV) vaccines in school-based immunization clinics for students in grade seven. At the end of the 2017-18 school year, meningococcal disease had the highest completion rate (76%) among students aged 12 or 13, followed by hepatitis B (64%) and HPV (55%).

Completion may be higher for meningococcal disease because this vaccination is required under the ISPA, whereas hepatitis B and HPV vaccination are optional (but highly recommended).

In addition, the meningococcal disease vaccine requires only one dose, whereas hepatitis B and HPV require two doses each. This means that students who had a delay in getting their first dose may not be due for their second dose (which is required for completion) until later in 2018, or some students may have missed their second dose.

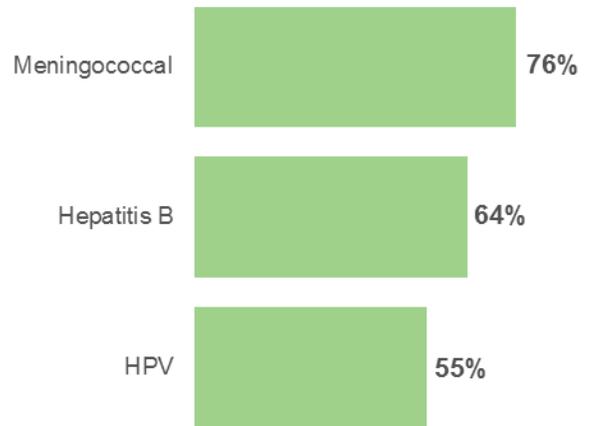


Figure 4: Vaccine series completion, by disease, 12 or 13 years of age, Halton Region, 2017-18

By municipality

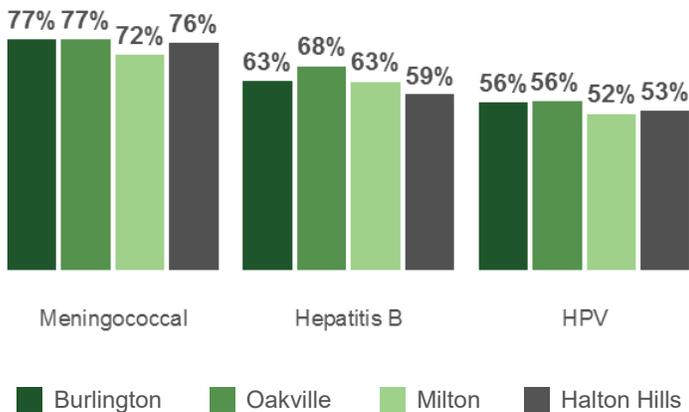


Figure 5: Vaccine series completion, by municipality and disease, 12 or 13 years of age, Halton Region, 2017-18

Meningococcal

Meningococcal disease vaccination completion was highest among students attending school in Burlington and Oakville, followed by Halton Hills and Milton. These differences were statistically significant when comparing Milton to Burlington and Oakville.

Hepatitis B

Hepatitis B vaccination completion was highest among students attending school in Oakville, followed by Burlington, Milton, and Halton Hills. These differences were statistically significant when comparing Oakville to all other municipalities.

Human papillomavirus (HPV)

HPV vaccination completion was highest among students attending school in Oakville and Burlington, followed by Halton Hills and Milton. These differences were statistically significant when comparing Milton to Oakville.

HPV vaccine completion, by sex

A greater proportion of females completed the vaccination series for HPV compared to males, and this difference was statistically significant.

Completion among males may be lower because the HPV vaccine was only recently made available to males (in the 2016-17 school year); previously the vaccine was only publicly-funded for females. It is possible this led to lower uptake due to lack of awareness among parents that the vaccine was now available for males, or because of a perceived lack of need to vaccinate males.

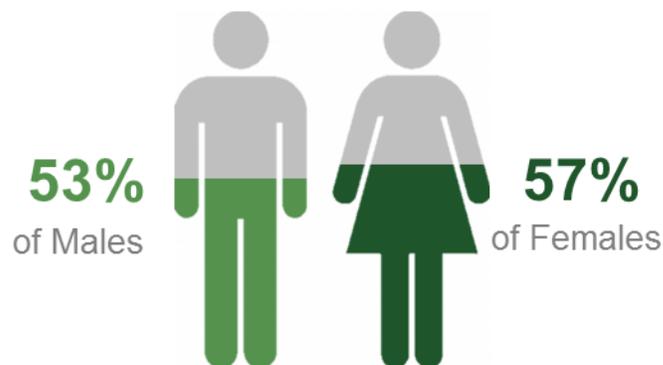


Figure 6: HPV vaccine completion, by sex, 12 or 13 year olds, Halton Region, 2017-18

Data notes

Data source: Ministry of Health and Long-Term Care, Panorama Enhanced Analytical Reporting Tool, extracted July 3, 2018 (with data current as of June 28, 2018).

Notes:

[†]Compliant for all of diphtheria, pertussis, tetanus, polio, measles, mumps, rubella, and meningococcal disease for students born in 2001; and compliant for all of diphtheria, pertussis, tetanus, polio, measles, mumps, rubella, meningococcal disease, and varicella for students born in 2010. Note that measles, mumps, and rubella are in the same vaccine, but compliance is generally higher for rubella, as only one dose is required for protection against rubella, while two doses are needed for protection from measles and mumps.

Statistical significance:

Differences between groups were tested for statistical significance by calculating 95% confidence intervals for rates. If the confidence intervals between groups did not overlap, the differences were considered statistically significant.

Limitations:

Students are considered compliant for a particular disease or combination of diseases if they have any forecast status other than 'overdue' in Panorama for that disease or combination of diseases, or if they have a valid exemption on file.

Students are considered complete for a school-based vaccine if they have no forecast status in Panorama for that disease, indicating that they have finished the vaccine series appropriately and require no further vaccination for immunity. Students with an exemption for a school-based vaccine were not considered complete despite having no forecast status, unless the student was identified as having completed the vaccine series despite the exemption, or unless the exemption was for natural immunity to hepatitis B. This determination was made through manual review by a public health nurse. Note that students technically do not require an exemption for hepatitis B or HPV as they are not required by the ISPA, but some students have one recorded because broad exemptions for all vaccines were carried over from a previous system (IRIS).

Compliance and completion rates were based on the best information available to the Halton Region Health Department. It is possible that many students considered non-compliant or incomplete have actually received their vaccines, but their parents have not reported the vaccines to the Health Department.

Compliance is not equivalent to coverage. Children with an exemption are ISPA-compliant, but they are not immune to the diseases for which they are exempt from vaccination. Similarly, children who are due for vaccination are ISPA-compliant as long as they are not yet overdue, but they may no longer be immune.

This report includes only children attending schools in Halton as of June 28, 2018; these children may not reside in Halton, and some children who do reside in Halton may attend school elsewhere. Municipality is based on the school location.

References:

Ministry of Health and Long-Term Care. 2016. Immunization. Accessed July 2018 from <http://www.health.gov.on.ca/en/pro/programs/immunization/ispa.aspx>

Ministry of Health and Long-Term Care. 2016. Ontario's Publicly Funded Immunization Schedules. Accessed July 2018 from <http://www.health.gov.on.ca/en/pro/programs/immunization/schedule.aspx>

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