

Region of Waterloo Public Health

Vaccine Preventable Diseases Program Report 2015-2018

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Abbreviations

Name	
AEFI	Adverse Events Following Immunization
HPV	Human Papillomavirus
ICON	Immunization Connect Ontario
IDS	Infectious Diseases and Sexual health
ISPA	Immunization of School Pupils Act
m-Imms	Mobile Immunizations
MOH	Ministry of Health
OGP	Ontario Government Pharmacy and Medical Supply Services
OIID	Ontario Immunization Identifications
OPHS	Ontario Public Health Standards
PHIX	Public Health Information Exchange
ROWPHE	Region of Waterloo Public Health and Emergency Services
UIIP	Universal Influenza Immunization Program
VPD	Vaccine Preventable Diseases
WHO	World Health Organization

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1.0 Introduction

The Vaccine Preventable Diseases (VPD) program is one of four programs in the Infectious Diseases and Sexual Health (IDS) division of Region of Waterloo Public Health and Emergency Services (ROWPHE). Comprised of multi-disciplinary staff, the program provides routine and school immunization as well as on and off-site clinical services. The Vaccine Preventable Diseases program is responsible to the Board of Health for implementing 10 requirements in the Immunization Program Standard as well as three requirements of the School Health Program Standard of the Ontario Public Health Standards (OPHS)¹. In addition, it complies with the Immunization of School Pupils Act (ISPA), which requires Public Health to enforce the Act and ensure immunization coverage rates improve and students receive the maximum amount of protection against vaccine preventable diseases.

In order to meet the requirements outlined in the Standard, Region of Waterloo Public Health's (herein referred to as Public Health) Vaccine Preventable Diseases program provides a variety of services to the residents and allied health care providers of Waterloo Region, many of which are outlined in the Immunization for Children in School and Licensed Children Care Settings² and the Vaccine Storage and Handling Protocols³.

This report provides an overview of Public Health's Vaccine Preventable Diseases program, information and data on surveillance, immunization and coverage rates, as well as future directions for the program.

The Vaccine Preventable Diseases program supports the protection of the community through immunizations and activities to support or promote immunization in the Region.

1. Direct client care through immunizations:

- The Vaccine Preventable Diseases program offers immunization at Region of Waterloo Public Health's clinics, in schools and at community settings to protect individuals against vaccine preventable diseases.
- The Vaccine Preventable Diseases Program only provides vaccines for people who are eligible to receive them according to the Publicly Funded Immunization Schedule for Ontario.

¹ The OPHS are requirements for all Public Health programs and services, which include assessment and surveillance, health promotion and policy development, disease and injury prevention and health protection. Ontario Public Health Standards (2018). Ontario Ministry of Health.

²

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Immunization_Schools_Child_Care_Protocol_2018_en.pdf

³

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Vaccine_Storage_and_Handling_Protocol_2018_en.pdf

- Some clinics are open to all persons who are eligible, such as school clinics, where all Grade 7 students are offered vaccine to prevent Hepatitis B, Human Papillomavirus and Meningococcal disease.
 - Other clinics are only available to specific populations that may not be served within the Region of Waterloo, including new immigrants, refugees, those without health cards, those of certain age cohorts and those without their own family physician.
2. Activities to support or promote immunization in the Region:
- Enforce Immunization of School Pupils Act, through notification and suspension to ensure all students attending school are immunized as required.
 - Improve immunization rates, through targeted communications and trend analysis, working towards notifying and suspending fewer students.
 - Distribute and manage inventory for all publicly funded vaccines provided to health care providers within the region.
 - Ensure the maintenance of storage conditions for vaccines within Public Health facilities and for all health care providers storing publicly funded vaccines, including, but not limited to, family physicians, hospitals, long-term care homes, retirement homes and pharmacies.
 - Collect and maintain the immunization records of children enrolled in licensed child care centres.
 - Provide health education and clinical leadership (e.g., via website, written resources, site visits, educational forums) for health care providers, including family physicians, long-term care homes, pharmacies, etc.
 - Receive and investigate reports of adverse events following immunization (AEFI) and report them to the Ministry of Health (MOH).

2.0 The Changing Landscape of Immunization in Ontario

Developments in technology, products and information related to vaccines and immunization best practices make the immunization landscape in Ontario and beyond, an ever changing field of practice.

The work of the Vaccine Preventable Diseases Program is legislated and as such, changes in the legislation have impact on the scope of work in the program. The Ministry of Health amended the Immunization of School Pupil's Act in 2014 to include three new diseases (Pertussis, Varicella and Meningococcal) for which vaccination or exemption was required. The inclusion of these three diseases in the Vaccine Preventable Diseases program enforcement of the Immunization of School Pupils Act was phased in over three years to provide parents and children ample opportunity to update their immunizations without threat of suspension. The implementation of the three new vaccines was staggered over three years to ensure parents were informed of

the changes and to also ensure the Vaccine Preventable Diseases program had the resources in place to account for the increased workload of assessing and notifying for three new diseases annually.

In 2017, the Immunization of School Pupils Act was enhanced with the addition of a required exemption education session to be completed by parents, prior to health units accepting statement of conscience (non-medical) exemptions. The change was enacted September 1, 2017 and the Vaccine Preventable Diseases program has been hosting education sessions since October, 2017. As of December 31, 2018, 265 students had parents who completed education sessions prior to submitting exemptions.

The Ministry of Health replaced and enhanced the existing immunization records database and released Panorama in July 2014. In addition, local health units have been provided with four new platforms. The platforms work with Panorama to make immunizing clients and updating immunizations records for clients and public health units easier and more streamlined:

- **Panorama Inventory Module:** In 2015, Panorama inventory module was introduced to help local health units order, track and distribute publically funded vaccines and medications. Panorama Inventory module was launched in Waterloo in July 2015.
- **Mobile Immunizations (m-Imms):** Mobile Immunizations is a mobile platform used by Region of Waterloo nurses in school settings. Nurses use iPads, to access Panorama from a disconnected state. This allows them to access client immunization information without needing secure internet connections. Waterloo launched Mobile Immunizations in the 2017-2018 school year.
- **Immunization Connect Ontario (ICON):** Immunization Connect Ontario is a new immunization reporting platform, for parents to report and update their children's immunizations as well as view their children's records. Waterloo is launching this platform in October 2019.
- **Public Health Information Exchange (PHIX):** Public Health Information Exchange is a platform that allows for electronic transfer of immunization information from external sources (such as Immunization Connect Ontario or other electronic medical records) into Panorama. Waterloo launched this platform in 2017, but use has been limited until Immunization Connect Ontario launches in October 2019.

Finally, as local public health units are responsible for promoting and delivering immunizations based on the "Publicly Funded Immunization Schedules for Ontario," the province incorporated additional vaccines to the publicly funded schedule, including:

- Human Papillomavirus (HPV) Vaccine expansion to include males.

- Using a new Human Papillomavirus vaccine, which protects against nine strains of the virus. The previous vaccine only protected against four strains.
- Herpes Zoster (shingles) immunization for seniors.
- Meningococcal type B immunization for high risk individuals.
- Pneumococcal immunization for high risk adults.

Nationally and internationally, anti-vaccine sentiment⁴ has expanded. The impact of this has recently been seen in measles outbreaks in upstate New York⁵, Western Canada⁶ and Europe⁷, leading to an increase in measles cases and outbreaks, including those in Ontario⁸. The Vaccine Preventable Program provides constant and consistent communication to address these misconceptions.

3.0 Vaccine Storage and Handling

Publicly funded vaccines are ordered and received from the Ontario Government Pharmacy and Medical Supply Services (OGP) in Ontario according to the vaccination schedule. Public Health can order any vaccine listed in the Public Funded Immunization Schedules for Ontario⁹, as well as other materials that may aid in immunization transport or reporting (i.e., coolers, yellow cards).

Public health distributes all publicly funded vaccines used in Waterloo Region with the exception of influenza vaccine to local pharmacies (received through an established pharmaceutical distribution system).

3.1 Cold Chain

The “cold chain” includes all of the materials, equipment and procedures used to maintain vaccines in the required temperature range of 2 C to 8 C from the time of manufacture until the vaccines are administered to individuals¹⁰. This is critical to ensuring the delivery of viable vaccines to clients. An “incident” occurs when vaccine is exposed to a temperature outside the required temperature range of 2 C to 8 C for any

⁴ World Health Organization (2019) <https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>

⁵ New York State (2019) <https://www.health.ny.gov/publications/2170/>

⁶ British Columbia Centre for Disease Control (2019) <http://www.bccdc.ca/resource-gallery/Documents/Measles%20BC%20epi%20summary%202019%20YTD.pdf>

⁷ World Health Organization (2019) <https://www.who.int/csr/don/06-may-2019-measles-euro/en/>

⁸ Public Health Ontario (2019) <https://www.publichealthontario.ca/en/diseases-and-conditions/infectious-diseases/vaccine-preventable-diseases/measles/important-measles-information>

⁹ Government of Ontario (2016). http://www.health.gov.on.ca/en/pro/programs/immunization/docs/immunization_schedule.pdf

¹⁰Government of Ontario (2018). http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Vaccine_Storage_and_Handling_Protocol_2018_en.pdf

period of time and the potency of the vaccine is potentially compromised¹¹. The actions taken by the Vaccine Preventable Disease programs align with the requirements set out in the Vaccine Storage and Handling Protocol.

The Vaccine Preventable Diseases program investigates all Altered Storage Conditions (ASC). Altered Storage Conditions are times when the cold chain is broken, potentially exposing the vaccine to temperatures above or below the allowable range. The investigation determines the cause of the cold chain incident and whether vaccine can be used by the health care provider or returned to the public health unit. After completing the investigation, the Vaccine Preventable Diseases program provides follow-up education, as well as other mitigation strategies to prevent the occurrence of future incidents and ensure that adequate cold chain conditions can be maintained prior to continuing the vaccine supply to the health care provider¹². Altered Storage Conditions are the largest contributor to vaccine wastage by community health care providers.

For health care providers to order publicly funded vaccines from the Vaccine Preventable Diseases program, there are checks done to ensure cold chain is maintained.

Approximately two months of vaccine stock is regularly stored on-site at Public Health. Inventory is conducted daily and new stock is ordered from the Ontario Government Pharmacy and Medical Supply Services weekly. A licensed medical courier picks up orders and transports them to vaccine providers and clinics. If a vaccine has spoiled or expired, a biological returns form must be completed and accompany the return via medical courier to the manufacturer.

3.2 Risk Assessments and Altered Storage Conditions

In 2017, the Vaccine Preventable Diseases program began a pilot project with the goal to reduce the number of altered storage conditions experienced by health care providers storing publicly funded vaccines. As the majority of health care providers do not experience altered storage conditions, the pilot program looked at instituting a risk

¹¹Government of Ontario (2018).

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Vaccine_Storage_and_Handling_Protocol_2018_en.pdf

¹²Government of Ontario (2018)

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Vaccine_Storage_and_Handling_Protocol_2018_en.pdf

rating and tailoring interventions to those facilities that had a repeated history of altered storage conditions or failed annual refrigerator inspections.

Health care provider practices were rated based on their two-year history of altered storage conditions with preventable causes and failed inspections. Preventable altered storage conditions that were human error or non-reporting were determined as the cause of the altered storage conditions. Altered Storage Conditions that were not preventable, such as power outage, equipment malfunction, etc. were not included in the risk rating. Ratings were used by the Vaccine Preventable Disease Program to provide targeted education and services to those practices identified as being ‘at higher risk’ of an incident. In 2018, the pilot was launched and it has shown the approach may be yielding positive results towards reducing altered storage conditions and reducing wasted publicly funded vaccine.

Table 1: Altered Storage Condition events in Waterloo Region by year, 2016-2018

Year	# of preventable altered storage conditions reported
2016*	42
2017	30
2018	24

*In 2016, the pilot was not started, this was the last year that interventions were not in place to reduce preventable altered storage conditions.

4.0 School Immunization

Public Health provides vaccines for Hepatitis B, Meningococcal Conjugate ACYW-135 and Human Papillomavirus immunization for Grade 7 and 8 students in Waterloo Region. Grade 7 students are offered Hepatitis B and Human Papillomavirus vaccines in two doses during the school year; one dose in the fall and a second dose in the spring, at least six months following the first dose vaccines. Grade 7 students are also offered the meningococcal conjugate ACYW-135 vaccine, which only requires one dose, which is offered in the winter months between the first and second doses of Hepatitis B and Human Papillomavirus vaccines. Students who may have missed a dose of Hepatitis B or Human Papillomavirus vaccine in Grade 7 are offered an opportunity to receive their missed dose during their Grade 8 year.

In the 2016-2017 school year, the eligibility to receive the Human Papillomavirus vaccine was moved from being provided to Grade 8 students, to Grade 7 students and was enhanced to include male students. Prior to 2016-2017, the Human Papillomavirus vaccine was only offered to Grade 8 female students. Female students are eligible to receive the publicly funded Human Papillomavirus vaccination until the end of Grade 12 if they did not receive it in Grade 7. Male students are eligible to receive the publicly funded Human Papillomavirus vaccine until Grade 10. Each year, the funding for male

students will expand until the first class to be offered vaccine reaches Grade 12, at which time, public funding for male and female students will be for Grades 7 to 12.

All students in Grade 7 and 8 are eligible for the Hepatitis B vaccine. All students in Grades 7 to 12 are eligible for the Meningococcal vaccine.

Hepatitis B and Human Papillomavirus immunization is not mandatory, but it is recommended. Meningococcal vaccination at age 12 is enforceable through the Immunization of School Pupils Act. Any student who is not immunized in Grade 7, will either be required to be immunized in Grade 8, or will be required to have a valid vaccine exemption on file.

Table 2: School Program Immunization Schedule

Vaccine	Grade and gender	Dose series	Vaccine intervals
Human Papillomavirus (HPV)	All Grade 7 students	2 dose series	1 st dose: grade 7 2 nd dose: 1 st dose + 6 months
Meningococcal conjugate ACYW-135	All Grade 7 students	Single dose	N/A
Hepatitis B	All Grade 7 students	2 dose series	1 st dose: grade 7 2 nd dose: 1 st dose + 6 months (4 months if Recombivax vaccine; 6 months if Engerix vaccine)

4.1 School Clinics

Clinic planning for school immunization is a year round process. Scheduling for school immunization clinics begins in April; schedules are drafted and sent to schools, before being finalized. Clinics are rescheduled upon school request. Consent forms are reviewed annually and all material is printed for schools including consents, letters, Health Care Consent Act explanations, instruction labels and instruction sheets. The materials are organized into consent packages, which are delivered to schools in June.

Staff continue to work with school board officials towards making this information available electronically for parents.

In August, staff begin to prepare for clinics and schedule staff for round one of immunizations. Vaccines are ordered for round one in August. There is a training day for nurses working in school clinics in early September. Consents for all three vaccines are sent home with students on the first day of school and are picked up from schools,

by nurses, in early September. Public Health receives student data from school boards and imports the information into Panorama. Round one (Hepatitis B and Human Papilloma Virus dose 1) clinics begin in schools in October and continue until the early December. Both Human Papilloma Virus vaccine and meningococcal vaccines provided are reimbursed by the Ministry of Health. Reimbursement is based on quarterly reporting to the ministry, which is completed by the Vaccine Preventable Diseases program manager. Round two (Meningococcal) clinics begin in early January and finish in early March. Round three (Hepatitis B, Human Papilloma Virus dose two and Grade 8 catch-up) clinics are offered in schools from mid-March until early June.

For those students and parents that choose to be vaccinated, but prefer not to be immunized in a school setting, the Vaccine Preventable Diseases program offers two alternatives, a catch-up clinic at Regional Public Health clinics (99 Regina St S, Waterloo and 150 Main St, Cambridge), or to release the vaccine to a student's family physician. Catch-up clinics are organized throughout the school year and summer as an alternative to in school clinics or to catch-up students who missed either one or both doses of vaccine in Grade 7. To ensure vaccine is not provided in error during school clinics, Public Health will only release vaccine to physicians after the client has completed the Grade 7 year without receiving immunizations from Public Health in school.

4.2 School Program Vaccine Coverage¹³

Hepatitis B coverage in the Waterloo Region and across the province, has been slowly decreasing. Hepatitis B vaccine coverage in Grade 7 may be decreasing due to the trend of parents wishing to have their children immunized outside the school setting (i.e., in their family physician's office). As Hepatitis B is not enforced by the Immunization of School Pupils Act, Hepatitis B vaccines given in physician's offices are not typically reported to Public Health and therefore not entered into Panorama for inclusion in coverage reports. Waterloo Region's Hepatitis B coverage vaccine rates have remained consistent with the Provincial coverage rates.

Human Papillomavirus vaccine coverage has remained relatively stable and consistent with provincial coverage rates. It should be noted that in 2016-2017 Human Papillomavirus coverage dropped dramatically. This can be attributed to the inclusion of male students in the funding for Human Papillomavirus vaccine. The coverage rate rebounded to typical rates in the second year that it was offered to all students.

¹³ Coverage information was collected from Public Health Ontario annual reports *Immunization Coverage Report for School Pupils in Ontario*.

Meningococcal vaccine coverage rates have remained consistent and in line with provincial rates. In 2016-2017, meningococcal vaccine was not provided in schools to accommodate the inclusion of HPV for both male and female students. Meningococcal vaccine was offered to Grade 7 students in 2017-2018 and coverage rates returned to typical levels.

A more detailed breakdown of School Immunization Program Coverage rates was provided in a separate Community Services Committee report on September 11, 2018 and can be found here: <https://calendar.regionofwaterloo.ca/Council/Detail/2018-09-11-0900-Community-Services-Committee/ef6fa8e9-0a2a-464d-b704-a95400ffb789>

5.0 The Immunization of School Pupils Act (ISPA)

Public Health is mandated to annually enforce the Immunization of School Pupils Act, which includes collecting, updating and assessing immunization records for students aged four to 18 years who are attending school. The Immunization of School Pupils Act process recurs each year and involves the following activities:

Table 3: Outline of annual Immunization of School Pupils Act activities

Time of Year	Activity
September	<ul style="list-style-type: none"> Public health receives enrollment information electronically from school boards, including student demographics
October-January	<ul style="list-style-type: none"> Immunization records are assessed for every student Students whose records are not up-to-date according to the Immunization of School Pupils Act are notified via mail. The notification includes what vaccines are not up-to-date and non-compliance may result in suspension
February	<ul style="list-style-type: none"> Records are re-assessed based on updates received Elementary students are mailed suspension orders warning of date of suspension if no action is taken Schools are notified which students are receiving suspension orders
March	<ul style="list-style-type: none"> Immunization of School Pupils Act specific clinics are provided for elementary students who received suspension orders One-week prior to elementary suspension, schools are provided copies of students still not up-to-date Schools are provided final suspension lists the day before elementary suspension day Elementary suspension day is typically the first Wednesday in March

Time of Year	Activity
	<ul style="list-style-type: none"> Drop in clinics continue for students requiring immunization to return to school
April	<ul style="list-style-type: none"> Secondary students are mailed suspension orders warning of date of suspension if no action taken Immunization of School Pupils Act specific clinics are provided for secondary students who received suspension orders One-week prior to secondary suspension, schools are provided copies of students still not up-to-date
May	<ul style="list-style-type: none"> Schools are provided final suspension lists the day before secondary suspension day Secondary suspension day is typically the first Wednesday in May Drop-in clinics continue for students requiring immunization to return to school
Year round	<ul style="list-style-type: none"> Immunization records are collected and updated as parents report via online, phone or fax

The Immunization of School Pupils Act¹⁴ requires that Public Health maintain the immunization records of all students in Waterloo Region. Parents of children attending primary or secondary school must provide Public Health with proof of their child's immunization against designated diseases. Public Health's Vaccine Preventable Diseases program is required to keep the immunization records of all students in all grades at private, public and catholic schools. Public Health currently enforces the Immunization of School Pupils Act within the Waterloo Region District School Board and the Waterloo Catholic District School Board for all students between their 4th and 18th birthday, as prescribed in the Act. However, the Immunization of School Pupils Act is not enforced within private and parochial schools. In 2018-2019, French language boards started the Immunization of School Pupils Act process by notifying parents of students without up-to-date immunization records with no suspension. In 2019-2020, French language school boards will have Immunization of School Pupils Act fully enforced and private schools will be notified to begin Immunization of School Pupils Act enforcement for the 2020-2021 school year.

5.1 Enforcement of the Immunization of School Pupils Act

The enforcement of the Act ensures that immunization coverage rates of students are improved and students receive the maximum amount of protection against vaccine preventable diseases. Exemptions from immunization requirements are allowed for medical reasons (i.e., prior immunity or medical contraindication) or based on an

¹⁴ Government of Ontario (2017). <http://www.ontario.ca/laws/statute/90i01>

affidavit of conscience or religious belief. In order to have an affidavit of conscience or religious belief exemption applied, parents must first complete an exemption education session. Children for whom the public health unit does not have required immunization records or a valid exemption may be temporarily (up to 20 business days) suspended from school until the required records are provided.

In 2014, the Immunization of School Pupils Act was amended to include three new immunizations, which are required: Pertussis, Varicella and Meningococcal. The addition of three new vaccines, to the already mandated six vaccines: measles, mumps, rubella, tetanus, diphtheria and polio, saw a dramatic increase in notification and orders sent, as well an increase in number of students suspended, particularly for elementary students (as secondary school students were not affected by varicella requirements).

Table 4: Immunization of School Pupils Act notices, orders and suspensions by school level and school year, 2012-2018

School Year	Elementary Notices sent	Elementary Orders sent	# of Elementary students suspended (% of notices sent)	Secondary Notices sent	Secondary Orders sent	# of Secondary students suspended (% of notices sent)
2012-2013	4,115	1,716	546 (13.3%)	4,515	1,718	654 (14.5%)
2013-2014	4,041	1,835	526 (13.0%)	4,264	1,770	582 (13.6%)
2014-2015*	10,497	*	*	9,918	*	*
2015-2016 [¥]	10,077	4,115	931 (9.2%)	9,258	3,046	586 (6.3%)
2016-2017 [‡]	8,679	4,452	1,021 (11.8%)	6,024	2,816	719 (11.9%)
2017-2018	10,306	5,606	1,101 (10.7%)	5,301	2,435	438 (8.3%)

*No suspension in 2014-2015 due to implementation of Panorama

[¥] first year of pertussis suspension and meningococcal notification but not suspension

[‡] first year of notification and suspension for meningococcal and varicella (for those born after Jan 1, 2010)

A more detailed breakdown of Immunization of School Pupils Act compliance was provided in a separate Community Services Committee report on September 11, 2018, and can be found here: <https://calendar.regionofwaterloo.ca/Council/Detail/2018-09-11-0900-Community-Services-Committee/ef6fa8e9-0a2a-464d-b704-a95400ffb789>

6.0 Maintenance of Records in Child Care Facilities

As per the Child Care and Early Years Act, 2014¹⁵, children attending licensed childcare centres should be immunized according to their age and as recommended in the Publicly Funded Immunization Schedules for Ontario or as directed by the Medical Officer of Health. The Ontario Public Health Standards require health units to “assess, maintain records and report on the immunization status of children enrolled in licensed child care settings.”

When children are registered for child care, the provider will collect and forward a copy of the child’s immunization record to Public Health. Public Health annually requests to have each record submitted, as well as a list of updates of previously enrolled children, exemptions and new registrants.

Public Health is mandated to maintain and assess immunization records. However, the Vaccine Preventable Diseases program currently maintains, but does not assess immunization records of children in child care, due to limited resources with the requirements needed to enforce the Immunization of School Pupil’s Act. Public Health is reviewing the feasibility of assessing records in the future so that we are able to contact parents and advise them of incomplete immunization records. The enhancement or assessment and maintenance of immunization records in child care settings will benefit the enforcement of the Immunization of School Pupils Act. During the 2018 notification school year, 9,595 notices were provided to parents of elementary students to indicate their children’s immunization records were not up-to-date. Approximately 18 per cent (1,870) of those notices were for kindergarten students enrolled in school, but had no immunization records submitted. Assessing and maintaining records in child care settings would prevent many of those notifications by providing parents warning before enrolling in kindergarten that records must be submitted for compliance with the Immunization of School Pupils Act. Assessing and maintaining records in child care settings would also have the benefits of preventing infectious disease outbreaks in child care settings and ensuring children are protected should an infectious disease outbreak occur.

7.0 Clinical Services

The Vaccine Preventable Diseases program provides regularly scheduled immunization clinics for routine immunization catch-up, school program catch-up clinic and refugee client clinics. The clinics are provided for specific populations and each have their own criteria for booking appointments. The clinics serve the intended populations as well as others who may have access issues to their family doctors or prefer the convenience of the clinic (location, scheduling or ability to walk-in). Ad-hoc clinics are also used from

¹⁵ Government of Ontario (2014). <http://www.ontario.ca/laws/statute/14c11>

time to time to deal with urgent or unplanned activities or times when demand for clinical services is much higher than our normal clinic schedules can accommodate, such as in March prior to suspension for the Immunization of School Pupil's Act.

7.1 Routine Immunization Clinics

Routine immunization clinics are intended to support clients who have health care access issues, which may include not having a health card or a family doctor. There are two, on-site, routine immunization clinics run by Public Health, as well as two off-site clinics referred to as the 'Y Clinic.' There is a clinic in Waterloo that operates at 99 Regina Street South every Thursday from 8 a.m. - 4:30 p.m. and every other Thursday operates 4:30 p.m. - 7:30 p.m. as well as a Cambridge clinic that runs at 150 Main Street every Tuesday from 12 p.m. – 8 p.m. Both clinics book appointments ahead of time. The off-site clinics are located at the YMCA Cross Cultural and Immigrant Services Centres in Kitchener and Cambridge. These clinics run on a mutually agreeable Monday every month, alternating between Cambridge and Kitchener locations. These clinics offer any vaccine for eligible clients according to the Publicly Funded Immunization Schedules for Ontario.

7.2 School Program Catch-Up Clinics

School program catch-up clinics are offered to clients who missed one or more vaccines in the Grade 7 immunization program. These clinics usually run monthly at both 99 Regina Street South and 150 Main Street from December to August and are typically held on school professional development (PD) days to ensure parents and children can attend without missing school. These clinics offer Hepatitis B, Human Papillomavirus and meningococcal vaccines.

7.3 Refugee/New Immigrant Client Clinics

The Vaccine Preventable Diseases Program has had a long standing relationship with Reception House and the YMCA settlement services, to aid in the immunization of government sponsored refugees.

In December 2015 and continuing through 2016, Kitchener, as one of nine designated refugee resettlement areas saw a surge of refugees requiring immunization assessments and administration. The VPD program held 16 Syrian refugee specific clinics in late 2015 and early 2016, seeing 626 clients and giving 2,447 immunizations.

Since 2016 the Vaccine Preventable Diseases program has continued to hold regular refugee immunization clinics to assess and immunize clients who are new arrivals to Waterloo Region and from outside Canada.

To accommodate clients with varying backgrounds, clinic visits are by appointment only to arrange for translators to be available if needed. These clinics are different from routine clinics as the appointments are booked for families rather than individual clients and many of the clients are referred to Public Health through Waterloo Reception House.

These clinics are typically scheduled every other Wednesday at the 99 Regina Street South clinic. On some occasions, this clinic is offered directly at Reception House to facilitate newly arrived families. These clinics offer any vaccine for which a client is eligible according to the Publicly Funded Immunization Schedules for Ontario.

Once a month, the Vaccine Preventable Diseases program also holds a clinic at YMCA settlement services for refugees supported through the YMCA. These clinic alternate between Waterloo and Cambridge sites.

8.0 Universal Influenza Immunization Program (UIIP)

The Universal Influenza Immunization Program was introduced in 2006 and offers influenza vaccination free of charge to all persons six months of age and older who live, work or go to school in Ontario. The UIIP aims to:

- provide individual protection against influenza;
- reduce the number and the severity of influenza cases;
- reduce the impact on the health care system during the influenza season; and
- decrease the overall economic impact in both direct healthcare costs and indirect societal costs.

According to the National Advisory Committee on Immunization (NACI), “although the burden of influenza [nationally] can vary from year to year, it is estimated that, in a given year, there are an average of 12,200 hospitalizations related to influenza and approximately 3,500 deaths”¹⁶.

The influenza vaccine is available to the public through their primary care provider, public health clinics (for those with children under five years of age), pharmacies and in various other settings such as long-term care homes, workplaces, hospitals and community health care centres.

Each year the influenza vaccine is made to protect against the strains of influenza that are determined to be the most likely to circulate during the upcoming influenza season, which are determined each February by the World Health Organization (WHO).

¹⁶ Government of Canada (2019). <https://www.canada.ca/en/public-health/services/publications/vaccines-immunization/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2019-2020.html#112>

Organization of flu season and vaccination release is coordinated with the Ministry of Health.

For more detailed information on Influenza and the Region's Response, please see the Annual Flu report (last presented to Council Fall 2018):

<https://calendar.regionofwaterloo.ca/Council/Detail/2018-11-06-0900-Community-Services-Committee/2295b722-125e-4edf-aae6-a98c00fbdfd0>

9.0 Summary of Next Steps

The Ontario Public Health Standards have put an emphasis on the full enforcement of the Immunization of School Pupils Act and Child Care and Early Years Act, improving uptake of publicly funded vaccines and increasing public confidence in immunizations. The future goals of the Vaccine Preventable Diseases program will move towards compliance with those objectives, not only for compliance, but to improve the health and prevent infectious diseases outbreaks for residents of Waterloo Region.

9.1 Immunization of School Pupils Act future goals

The Vaccine Preventable Diseases program will promote the use of Immunization Connect Ontario (ICON) for residents of the Region to support submission and maintenance of immunization records.

Another future goal of the program is the expansion of the Immunization of School Pupils Act enforcement to private schools, with the goal of enforcing the Act in those groups by the end of the 2020-2021 school year.

9.2 Child Care and Early Years Act Future Goals

The Vaccine Preventable Diseases program will develop a system of maintaining and assessing immunization records for all those in licensed Child Care centres by 2022.

9.3 Health Promotion Future Goals

The Vaccine Preventable Diseases program, will continue to promote the safety and benefit of vaccines and as well as increase confidence in immunizations, not only for school compliance, but as a tool to prevent infection and disease.

The Vaccine Preventable Diseases Program plans to develop a Health Promotion Strategy to identify priority populations and to promote immunization in the Region.

9.4 Vaccine Coverage Reporting

The Vaccine Preventable Diseases Program continues to work to increase our transparency on vaccine uptake in the Region. Currently, the program reports biennially on Immunization of School Pupils Act and Grade 7 school immunization program compliance. Beginning in 2020, the Vaccine Preventable Diseases Program will make this information more publicly accessible through an online dashboard, showing vaccine coverage at regional schools, updated annually. This will highlight the region's high immunization coverage rates, but also allow for trends analysis and more prompt response to areas where coverage may not be optimal.

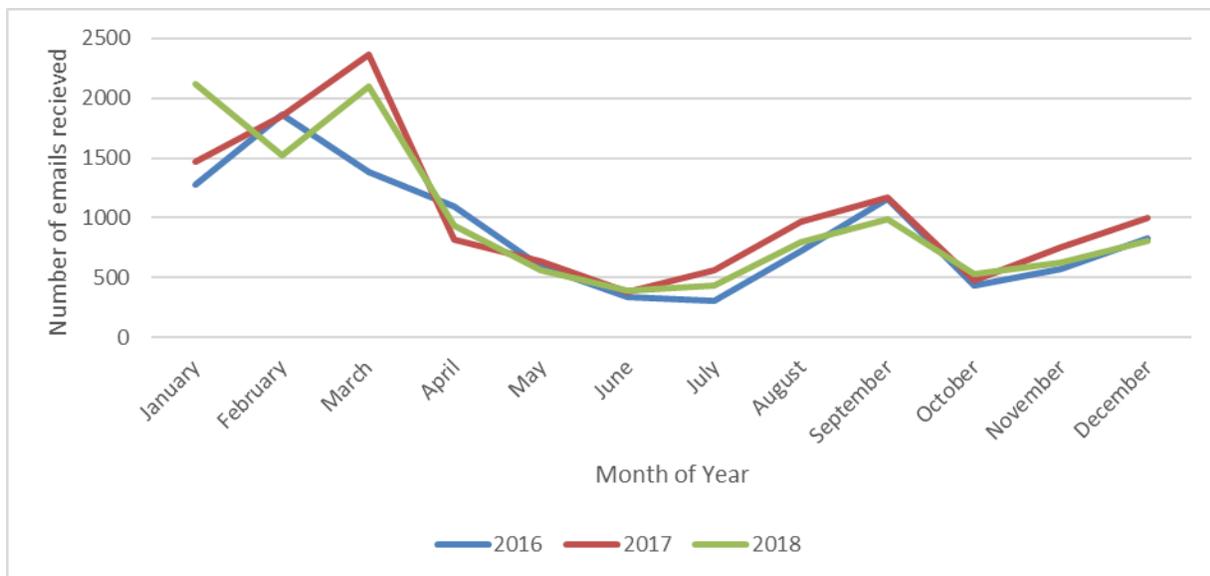
10.5 Immunization Connect Ontario

Immunization Connect Ontario (ICON) (regionofwaterloo.ca/updateimmunizations) is a public-facing web application for residents to report immunization data to public health as well as securely look up their immunization records. Immunization Connect Ontario will be launching in Waterloo Region in October 2019.

Since 2011, the Region of Waterloo Vaccine Preventable Diseases program operated a local public facing web application that supported parents to electronically report their children's immunization records. This application was developed by Region of Waterloo Information and Technology Services for the Vaccine Preventable Diseases program.

The application provided the Vaccine Preventable Diseases program with an email copy of the record, which was then entered by an information assistant into the immunization database manually. For the years 2016-2018, the information assistants would receive and update 11,609 records per year on average, with peaks in March during Immunization of School Pupils Act enforcement, where they may update up to 2,400 online records in one month. This process has been replaced by the provincial application as of October 2019.

Figure 1. Number of online reported records received by month from January 2016 to December 2018.



While Immunization Connect Ontario will not decrease workload or number of submissions, it does have at least two major benefits to the work of the Vaccine Preventable Diseases program.

1. Call volumes

With the Regionally developed online application, clients had the ability to enter their immunization information, but had to call the Vaccine Preventable Diseases program to request a copy of their immunization record (informally known as the yellow card). For a three-month period from January 2018 to March 2018, the Vaccine Preventable Diseases program tracked the number of calls received requesting immunization records.

On average, the Vaccine Preventable Diseases program is called 142 times per month by a client requesting a copy of their or their child's immunization record. As Immunization Connect Ontario allows clients to view and print their own immunization records, when used, it could potentially save the Vaccine Preventable Diseases program over 1,500 calls per year.

2. Data cleansing and accuracy

With the Regionally developed online application, clients would manually enter their immunization information into the application and the application would send the information to the Vaccine Preventable Diseases program for an information assistant to manually search for the client and then manually enter the information.

With this system, there were many stages in the process where errors could create duplicates or incorrect entries in the database. For example, clients could misread or misinterpret information and enter the wrong vaccine or date into the system. This required follow-up calls from the Vaccine Preventable Diseases program.

Immunization Connect Ontario in contrast uses unique identifiers, Ontario Health Card Number (OHCN), or Ontario Immunization Identification (OIID). This ensures client matching when updating records. It also uses standard formats and nomenclature (in numerous formats) to support parents who may not be vaccine literate. It also will flag information that is not entered correctly. Finally, information assistants now confirm that the information provided by clients is accurate, reducing the previous risks associated with having to enter information manually.

The Vaccine Preventable Diseases program developed a communication and change management plan, which was approved by the Ministry of Health and Canada Health InfoWay to advertise and promote Immunization Connect Ontario to allied health care providers and clients in order to successfully launch Immunization Connect Ontario in Waterloo Region. Activities in the communication plan include:

- social media campaign
- media release
- physician advisory
- updating and creating vaccine promotion materials to include ICON
- promoting Immunization Connect Ontario during enforcement of Immunization of School Pupils Act

While Immunization Connect Ontario can accept records from clients of all ages and demographics, the Region of Waterloo is promoting its use to clients and parents of children under 18 years of age, as the Region of Waterloo has no legal authority to collect or maintain immunization records beyond the scope of the Immunization of School Pupils Act.

While Immunization Connect Ontario is an improvement to our current practices, parents will still have access to report immunizations through phone and fax, as not all parents may have access to the internet to access Immunization Connect Ontario.