

**Report to
Rapport au:**

**Ottawa Board of Health
Conseil de santé d'Ottawa
15 June 2015 / 15 juin 2015**

**Submitted on June 5, 2015
Soumis le 5 juin 2015**

**Submitted by
Soumis par:
Dr./ Dr Isra Levy
Medical Officer of Health/Médecin chef en santé publique**

**Contact Person
Personne ressource:
Sherry Nigro, Manager / Gestionnaire
Health Promotion and Disease Prevention/ Promotion de la santé et prévention
des maladies
Ottawa Public Health/Santé publique Ottawa
613-580-2424, ext./poste 28971 Sherry.Nigro@ottawa.ca**

Ward: CITY WIDE / À L'ÉCHELLE DE LA VILLE File Number: ACS2015-OPH-HPDP-0003

**SUBJECT: OTTAWA PUBLIC HEALTH'S IMMUNIZATION PROGRAM: A MULTI-
PHASED IMMUNIZATION STRATEGY**

**OBJET: PROGRAMME D'IMMUNISATION DE SANTÉ PUBLIQUE OTTAWA :
UNE STRATÉGIE D'IMMUNISATION EN PLUSIEURS ÉTAPES**

REPORT RECOMMENDATIONS

That the Board of Health for the City of Ottawa Health Unit:

- 1. Approve Ottawa Public Health's multi-phased Immunization Strategy, as outlined in this report;**

2. Approve that the Chair of the Ottawa Board of Health write a letter to the Minister of Health and Long-Term Care recommending that the Panorama information system be improved by:
 - a. Optimizing functionality through enhancements to current features including the reporting functions on coverage and performance measures, the ability to upload consents, and improve capacity for parent notifications in both official languages;
 - b. Improving data collection of records for school-aged and pre-school children through integration of electronic medical records systems used in primary practice settings and online self-reporting options used by parents, such as the ImmunizeCA reporting app.
3. Direct staff to report back in 2016 on the progress of the Immunization Strategy.

RECOMMANDATIONS DU RAPPORT

Que le Conseil de santé de la circonscription sanitaire de la Ville d'Ottawa :

1. Approuve la Stratégie d'immunisation en plusieurs étapes de Santé publique Ottawa, décrite dans le présent rapport;
2. Approuve au président du Conseil de la santé d'écrire au ministre de la Santé et des Soins de longue durée afin de préconiser l'amélioration du système d'information Panorama par les moyens suivants :
 - a. Optimiser la fonctionnalité grâce à l'amélioration des éléments actuels, notamment la procédure de rapport sur les mesures de couverture et de rendement, la possibilité de télécharger les consentements et d'accroître la capacité d'aviser les parents dans les deux langues officielles;
 - b. Améliorer la collecte de données des dossiers sur les enfants d'âge scolaire et préscolaire, grâce à l'intégration des systèmes d'archivage médical utilisés en situation de pratique principale et des options d'autodéclaration en ligne utilisées par les parents, comme l'application ImmunizeCA.
3. Charge le personnel de rendre compte en 2016 sur les progrès de la stratégie d'immunisation.

EXECUTIVE SUMMARY

Immunization is a major contributor to the reduction of infectious diseases around the world and has saved more lives than any other health measure. Currently, Ottawa has low incidence of vaccine preventable diseases, largely due to a vigorous publicly funded program. However, there remains an on-going risk of potential outbreaks of these diseases in Ottawa mainly through global travel. Complications from these illnesses can be serious and costly to treat. Ottawa Public Health's (OPH's) Immunization Program strives to reduce or eliminate vaccine preventable diseases in Ottawa through high rates of immunization.

OPH's multi-phased Immunization Strategy aims to enhance immunization delivery and improve surveillance through focusing on data quality. OPH's Immunization Strategy, which will be phased in over the next four years will strengthen both organizational and community capacity to deliver immunization services.

OPH's Immunization Strategy will focus on three priority areas, with each phase informing the next:

- 1) **Every Child, Every Year:** This phase focuses on improving surveillance of immunization status by reviewing the immunization records of all children attending school and licensed daycare centres. Focusing on the school-age population is a natural starting point for immunization status assessment and will provide stronger data to better identify areas where inequities exist. OPH has initiated enhanced activities to prepare the Immunization Program to resume full immunization surveillance in the 2015/16 and subsequent school years and to ensure the new information management system, Panorama is fully up to date for the next school year.
- 2) **Reducing Inequities:** This phase will focus on identifying sub populations that face health inequities and are more at risk for vaccine preventable diseases. Ensuring access for older adults, children under five, persons living in group homes, residents of rural areas, and homeless or under-housed populations, to publicly funded vaccines, reduces morbidity and mortality in our community overall. OPH's Immunization Program endeavors to achieve the greatest gains in immunization among these populations by focusing OPH's vaccine delivery on these higher-risk groups.
- 3) **Across the Lifespan:** This phase will focus on expanding the promotion of immunization as a core health behavior across the lifespan and will address factors that foster vaccine hesitancy. OPH intends to promote all vaccines (publicly funded and non-publicly funded) and deepen existing and new

partnerships. OPH will use targeted and evidence-based strategies that address the key factors contributing to vaccine hesitancy.

OPH also recommends that the Chair of the Ottawa Board of Health write a letter to the Minister of Health and Long-Term Care recommending that the Panorama information system be improved. The recently launched information management system Panorama offers a new opportunity to collect, track and monitor local immunization data, however, functionality needs to be improved including the reporting function on coverage and performance measures and the ability to upload consents. Data collection also requires improvement to integrate with the electronic medical records in primary practice settings and on the Immunize.ca reporting app. Without these technological remedies, OPH, like other health units in Ontario, will continue to face operational challenges related to surveillance including the ability to generate accurate and complete immunization data.

OPH will report back to the Ottawa Board of Health in 2016 on progress of the Immunization Strategy.

RÉSUMÉ

L'immunisation contribue grandement à la prévention des maladies infectieuses partout dans le monde. Elle a permis de sauver plus de vies que toute autre mesure de santé publique. À Ottawa, l'incidence des maladies évitables par la vaccination est actuellement faible, principalement grâce à notre programme de vaccination musclé financé par les deniers publics. Pourtant, la menace que représente l'éclosion de ces maladies plane toujours, principalement en raison des voyageurs internationaux. Les complications peuvent être graves, et leur traitement, dispendieux. Le Programme d'immunisation de Santé publique Ottawa (SPO) s'efforce de prévenir et d'éradiquer les maladies évitables par la vaccination dans la ville en maintenant un taux élevé d'immunisation.

La stratégie d'immunisation de SPO, qui comporte plusieurs phases, vise à améliorer la prestation des programmes de vaccination et leur surveillance en mettant l'accent sur la qualité des données. La stratégie, dont la mise en œuvre s'étendra sur les quatre prochaines années, renforcera la capacité organisationnelle et communautaire de la Ville à offrir des services d'immunisation.

La stratégie de SPO sera axée sur trois aspects, et chaque phase s'appuiera sur la précédente.

- 1) Pour tous les enfants, tous les ans :** Cette phase a pour objectif d'améliorer la surveillance de l'état vaccinal par l'examen du dossier d'immunisation de tous les enfants qui fréquentent une école ou un centre de service de garde agréé. La

population des enfants d'âge scolaire constitue un bon point de départ pour la surveillance des dossiers d'immunisation; elle nous fournira des données fiables sur les groupes où subsistent des inégalités. SPO a intensifié ses activités pour que le Programme d'immunisation soit prêt à reprendre la surveillance complète de l'immunisation en 2015-2016 (et pour les années scolaires subséquentes) et pour veiller à ce que le nouveau système de gestion de l'information, Panorama, soit à jour dès l'automne.

- 2) **Réduction des inégalités** : L'objectif de cette phase est de cerner les sous-populations qui subissent des inégalités en matière de santé et qui courent un risque plus élevé de contracter des maladies évitables par la vaccination. Lorsque les sans-abri, les personnes qui n'ont pas de logement adéquat, les personnes âgées, les enfants de moins de cinq ans et les résidents de foyers de groupe ou de zones rurales ont accès à des vaccins financés par l'État, c'est la morbidité et la mortalité de l'ensemble de la collectivité qui diminuent. Le Programme d'immunisation de SPO s'efforce de faire augmenter le taux de vaccination de ces populations en administrant prioritairement les vaccins à ces groupes à haut risque.
- 3) **Pour toute la vie** : La dernière phase sera axée sur la promotion de l'immunisation en tant que comportement essentiel à la santé à toutes les étapes de la vie et s'attaquera aux facteurs qui influencent les personnes qui se méfient des vaccins. De plus, SPO prévoit faire la promotion de tous les vaccins (financés ou non par les deniers publics) et renforcer les anciens et les nouveaux partenariats. Leurs stratégies visant les facteurs associés à la méfiance à l'égard des vaccins seront ciblées et fondées sur des données probantes.

Par ailleurs, SPO recommande que le président du Conseil de santé d'Ottawa écrive une lettre au ministre de la Santé et des Soins de longue durée pour lui demander d'améliorer le nouveau système de gestion de l'information Panorama. Ce système permet pour la première fois de recueillir des données d'immunisation locales et d'en faire le suivi et la surveillance. Toutefois, plusieurs fonctions ont besoin d'être améliorées, notamment la possibilité de téléverser les formulaires de consentement et la fonction de production de rapports sur la couverture vaccinale ou les mesures de rendement. La collecte de données doit aussi être perfectionnée pour pouvoir être intégrée aux dossiers médicaux informatisés de première ligne et à l'application ImmunizeCA. Sans ces modifications, SPO devra, comme bien d'autres bureaux de santé ontariens, continuer de composer avec des difficultés opérationnelles liées à la surveillance, notamment l'impossibilité d'obtenir des données exactes et complètes sur l'immunisation de sa population.

En 2016, SPO présentera un rapport au Conseil de santé d'Ottawa sur l'évolution de la stratégie d'immunisation.

BACKGROUND

Infectious diseases were at one time the leading cause of death worldwide but in Canada, they now cause less than five percent of all deaths; immunization has made a major contribution to this reduction. In the last 50 years, immunization has saved more lives than any other health measure¹. Ottawa Public Health (OPH)'s Immunization Program is responsible for the promotion, delivery, stewardship and monitoring of immunization in the city of Ottawa. The program's primary goal is to reduce or eliminate vaccine preventable diseases in Ottawa through high rates of immunization.

As outlined in Document 1, the Immunization Program provides over 30,000 annual school-based immunizations, distributes approximately 800,000 doses of vaccines to local vaccine providers, delivers the Universal Influenza Immunization Program, as well as provides surveillance of the immunization status of children attending school and licensed day care centres. The Immunization Program is also responsible for ensuring adequacy of cold chain in the distribution network of local vaccine providers, for educating the public and health care professionals about immunization and vaccines and monitoring adverse events following immunization. In addition, OPH responds to outbreaks of vaccine preventable diseases, which range from micro clusters associated with a single family or school to massive community wide work such as during the H1N1 Pandemic in 2009.

Activities of the Immunization Program are governed by the Ontario Public Health Standards, the *Immunization of School Pupils Act* and the *Day Nurseries Act* while accountability is monitored through six indicators in the Public Health Funding and Accountability Agreements, outlined in Document 2. In addition to reporting to the Ministry of Health and Long-Term Care (MOHLTC) and Public Health Ontario, the Ottawa Board of Health (BOH) is regularly updated on operational performance and considerations.

Immunization Program Updates

In recent years, OPH has informed the BOH on elements of the Immunization Program through reports ([school immunization program](#), [influenza immunization program](#)) and memos ([implementation of a new provincial immunization information management system, Panorama](#)). Since these updates, related developments have emerged

affecting both the Immunization Program and impacting program delivery. These elements include:

- Changes to Ontario's Universal Influenza Immunization Program, allowing Ontario residents to receive influenza immunization from pharmacists.
- Construction of an Immunization Centre at 100 Constellation Drive with capital funds from the province to improve access to residents and vaccine providers. For example, immunization assessment and counselling, flu vaccine clinics to families with children under five years of age and catch-up school vaccine clinics to students are offered on site.
- Launching Panorama, an information system which has required significant and continuing efforts to migrate information from the previous vaccine information system, as well as subsequent data entry and cleaning. One-time funding was received from the province in 2014 and used to implement training, set up infrastructure, change business processes and establish workflow procedures.
- Amendments to the *Immunization of School Pupils Act*, implemented in July 2014, which increased the number of vaccine preventable diseases antigens required to be protected against from six to nine (diphtheria, tetanus, polio, measles, mumps, rubella and now pertussis, varicella and meningococcal). As with the previous vaccines, parents must provide proof of immunization against these diseases or provide an exemption statement (religious/conscientious or medical). Non compliance risks school suspension or, in the event of an outbreak, exclusion; and
- The release of provincial reports, including those from the MOHLTC, from the Auditor General of Ontario's Office and from Public Health Ontario, which identify province-wide challenges and opportunities to improve immunization recording in Ontario. Associated provincial response and action plans are pending.

In 2014, OPH's Immunization Program implemented a number of changes to relieve some of the program's pressures, including a structural reorganization featuring the following elements:

- Reorganization of Immunization teams to align with geographic service areas;

- Increased integration of vaccine programming across OPH (e.g. all Public Health Nurses now contribute to immunization clinics);
- The opening of the new Immunization Centre to increase access and ease distribution of an increasing number of vaccines to the community;
- An increased shift in the focus of OPH's influenza immunization to serving vulnerable populations through targeted clinics for children under five, residents of Aging in Place Buildings, group homes and shelters.

The first quarter of 2015 saw much public attention to a variety of immunization-related issues ranging from local to international, including outbreaks of measles in the United States, Ontario and Quebec, and the question of compliance with Ontario legislation such as the *Immunization of School Pupils Act* and the *Day Nurseries Act*. Also during this time, OPH brought forward two submissions to the MOHLTC: [a compliance report](#) indicating that there was partial variance from two requirements under the Vaccine Preventable Diseases section of the Ontario Public Health Standards; and a one-time funding request to support the Every Child, Every Year project, a catch-up plan for surveillance of immunization status of children and youth in Ottawa.

Further to these, OPH initiated enhanced activities to prepare the Immunization Program to resume full surveillance (as stipulated in the Ontario Public Health Standards) in the 2015/16 and subsequent school years. OPH is currently data entering and assessing the records of all children enrolled in schools and licensed day cares in Ottawa to ensure the new information management system, Panorama is fully up-to-date for the next school year. Those assessed with incomplete immunization records are being contacted by a nurse and advised to update their record. It is estimated that about half of children's immunization records at OPH are not up to date.

In addition to these updates, in April 2015, OPH committed in its [2015-2018 Strategic Plan](#), to prioritizing the reduction of preventable infectious diseases with emphasis on increasing immunization coverage rates and leveraging resources for maximum impact.

Current Vaccine Preventable Disease Status in Ottawa

Currently, Ottawa has low incidence of vaccine preventable diseases largely due to a vigorous publicly funded program (outlined in [Document 3](#)) delivered largely through primary care providers. School immunizations are delivered exclusively by OPH staff. However, there remains an on-going risk of cases and the potential for outbreaks of these diseases; many of the cases are imported from other parts of the world; local

spread occurs in unimmunized or under-immunized populations. This past winter saw a measles outbreak in Quebec connected to an outbreak at Disneyland in California. The *Toronto Unvaccinated* technical report estimates, based on modelling, if vaccination rates for measles drop by just ten percent, Toronto can expect large outbreaks of measles with 50 to 10,000 cases estimated in as few as five years². From 2001 to 2009, a ten percent drop in vaccine coverage for one dose of MMR (measles, mumps and rubella) vaccine among UK children was observed. In 2012, England and Wales reported 2030 cases of measles compared to 56 cases in 1998 and the highest annual total since 1994². Outbreaks do occur in Ottawa and the illness and complications of these diseases can be serious and costly to treat.

Table 1: Ten year total for select vaccine preventable diseases, Ottawa (1990-1999 and 2005-2014) and Ontario (inclusive of Ottawa 2005-2014)

Vaccine Preventable Diseases	Ottawa 1990-1999¹	Ottawa 2005-2014² (% of provincial total)	Ontario 2005-2014²
Measles	109	11 (7.6 %)	144
Mumps	53	26 (3.4%)	766
Rubella	11	0 (0%)	327
Pertussis	819	164 (2.7%)	6116
Tetanus	0	0 (0%)	15
Poliomyelitis	0	0 (0%)	0
Diphtheria	0	0 (0%)	0
Meningococcal Disease	46	32 (7.2%)	443

Vaccine Preventable Diseases	Ottawa 1990-1999¹	Ottawa 2005-2014² (% of provincial total)	Ontario 2005-2014²
Haemophilus Influenzae, type b	27	2 (3.9%)	51
Acute hepatitis B	311	34 (2.6%)	1287

DISCUSSION

Challenges with Surveillance of Immunization Status

Surveillance is a core public health function to assess health status and monitor trends over time through the collection and analysis of data. Surveillance of immunization status of the population is the foundation of a comprehensive immunization program. Complete and accurate immunization data is essential; to understand the levels of immunity to vaccine preventable diseases in Ottawa; to aid in timely and effective detection and identification of children susceptible to vaccine preventable disease; and to inform health promotion, program planning, evaluation and priority setting. The current Ontario system is predicated on having parents proactively report all vaccines to OPH. Immunization status of children is normally obtained by OPH during kindergarten enrolment however, there are several vaccines given to children after this age (as outlined in [Document 3](#)) that are often unreported by parents. This presents a significant surveillance challenge for OPH.

Periodic review of immunization records in OPH's immunization database, followed by outreach to parents and phased enforcement of mandatory vaccinations are the traditional mechanisms used to update OPH's records. Due to resource constraints, OPH has been using a risk-based approach over the past decade; efforts have focused on the subsets of the school age population deemed to be at the highest risk of being underimmunized. This approach has resulted in incomplete records for groups that were not targeted. With the implementation of the web based Panorama, a provincial information management system, it is anticipated that the public health system will have infrastructure and tools to improve surveillance, enhancing its ability to deliver and monitor immunization programs and improving its our ability to manage outbreaks of infectious diseases. Real time access to immunization records from the field, which

ideally would be linked to all vaccine providers and the ability to generate reports on missing immunizations offers significant advantage to undertaking vaccine surveillance. However, the transition to Panorama has been technically challenging and resource intensive as manual data entry is required, there was an existing back log of records to process and individual immunization assessments are required on more than half the records. As evidenced by [Document 3](#), some assessments are extremely complex with vaccine products and schedules varying across jurisdictions and changing over time. The first coverage report generated with Panorama data in February 2015 showed significant discrepancies in coverage rates from the previous Immunization Registry Information System and vaccine coverage rates varied by age and vaccine, from 36 percent to over 98 percent. These reports are not yet reliable to determine accurate vaccine coverage. There remains significant work on duplicate record management and on process improvements to ensure best practice and quality assurance.

Further, a number of system challenges have emerged in the early stages of the implementation of Panorama. Provincial outages, difficulty generating desirable reports for both performance and epidemiological functions, quality challenges with parent notification tools, and capacity to import information updates received electronically from parents or from electronic medical systems at primary care offices are operational challenges with technological remedies that are currently still pending.

Even with the limitations, Panorama is proving to be a significantly improved tool from the previous immunization information management system. OPH continues to work actively on updating, cleaning and verifying the data in Panorama with the goal that the data will be a reliable and accurate source for full surveillance, including enforcement of the *Immunization of School Pupils Act* in the next school year.

Currently Panorama does not track influenza vaccine coverage. Surveillance of population level uptake continues to be through telephone surveys which ask residents if they have been immunized against influenza in the most recent influenza season. A consortium of Ontario municipalities undertake regular telephone surveys to ascertain vaccination rates among community adults: 55 percent of Ottawa adults age 18 years and older reported receiving an influenza vaccine during the 2014/15 season (preliminary data). For the first time, OPH carried out an additional telephone survey to ascertain uptake of the influenza vaccine in children: 35 percent of Ottawa children aged six months to 17 years were reported to be immunized against influenza in the 2014/15 season.

Growth pressures

OPH's Immunization Program is subject to multiple factors that lend themselves to an increasing imbalance between demand and capacity. Ottawa is one of the fastest-growing cities in Canada; between 2006 and 2031, the population is expected to grow by 30 percent (Statistics Canada, 2011). In addition, Ottawa's population is becoming more diverse, and with global travel now common, there is the increased likelihood of needing to respond to imported cases of vaccine preventable diseases. These factors are relevant to the Immunization Program wherein the workload increases in direct proportion to the population size. When compared to health units in similarly-sized jurisdictions (e.g., Peel, York Region), Ottawa's Immunization Program has a lower staff complement⁴. The Immunization Program has regularly overspent on its allocated annual budget in recent years.

In addition to population growth, other pressures result from frequent changes to publicly funded immunization schedules, new vaccines and new regulations. New MOHLTC requirements without additional resources have resulted in challenges in the Program's ability to be fully compliant. As previously noted, the ongoing implementation of the new provincial information technology program has had significant operational implications.

These challenges are not unique to Ottawa. At the provincial level, it has been recognized by the MOHLTC that although Ontario's immunization system has been historically strong, it is now facing "unprecedented public pressures"⁵ such as an immunization schedule that is continually changing, a near doubling over the past ten years of the number of routine vaccines offered, and changing public attitudes and greater hesitancy about vaccines. The Strategy described below aims to address these pressures through efficient operational processes, enhancing of OPH immunization delivery and improved data quality.

Recommendation 1: Approve Ottawa Public Health's multi-phased Immunization Strategy, as outlined in this report

OPH promotes and fosters immunization as a cost-effective evidence-based public health intervention. Technology challenges and an inability to keep pace with growth pressures in recent years have eroded OPH's ability to assess local coverage rates and optimally plan programming to align with local epidemiology. These next steps are premised on a phased, multi year approach to strengthen both organizational and

community capacity to deliver immunization services. OPH recommends that the Immunization Strategy be phased in over the next four years and focus on three priority areas.

Firstly, OPH will improve surveillance of immunization status, initially prioritizing children. Analysis will focus on better identification of sub-populations that face health inequities and are more at risk for vaccine preventable disease. Once operations have been aligned to focus on the most at risk areas, OPH will expand to promotion of immunization as a core health behaviour across the lifespan and seek to address factors that foster vaccine hesitancy. The Strategy described below aims to further the Immunization Program mission of attaining and maintaining the highest possible level of immunization across the whole population in the City of Ottawa while maximizing efficiencies wherever possible. The Strategy is phased, with each phase informing the next. Efficiencies will be realized through efforts to maximize technology and leverage partnerships, for example with school boards and immunization providers.

OPH will prioritize surveillance of school age children as the starting place for the strategy.

Phase 1: Every Child, Every Year

Rationale

As infants, children and adolescents are the main recipients of most immunizations in Canada and as all children enter the education system, focusing on the school-age population is a natural starting point for immunization status assessment. For surveillance purposes, additional priority is allocated to assess young people at particular points in the immunization schedule. Those who receive all recommended vaccines by age two, seven and seventeen years of age are considered to be up to date.⁶

Operational Strategies

- Cleaning and reviewing all available data for every child and youth in Ottawa schools and licensed daycares. This includes cleaning data that was migrated from the previous information system, IRIS, to the new system Panorama, including; a manual review of the records of children in schools or licensed day cares whose records are not up to date; contacting families whose records are incomplete; and educating parents on the requirements in

Immunization of School Pupils Act and *Day Nurseries Act* as well as the need to report their child's immunizations to OPH.

- Continue to work toward the full implementation of Panorama and advocate for expediting expanded functionality including integration with point-of-care electronic medical record systems.
- Strengthen partnerships with school boards to enable timely electronic transfer of student enrollment data as well as coordinated communications to parents on immunization programming.
- Leverage new and existing technologies and mobile applications such as immunize.ca to enhance communication between parents and OPH and to create seamless business processes.
- Undertake enforcement of *ISPA* for families that are not compliant with obtaining and reporting vaccinations, or formal exemptions, for their children as required.

The work on Every Child, Every Year will inform the next phase of the Strategy as OPH will have better data to better identify the areas where inequities exist.

Phase 2: Reducing inequities

Rationale

The provision of services for the most vulnerable populations in our communities is a foundational principle at OPH and of public health practice. Within the context of vaccine preventable diseases, populations most likely to be facing barriers to receiving publicly-funded immunizations would include but are not limited to: older adults, children under five, persons living in group homes, residents of rural areas, and homeless or under-housed populations. These populations are also vulnerable to the effects of vaccine preventable diseases including influenza, whooping cough and measles. Ensuring access to publicly funded vaccines, especially for the vulnerable, reduces morbidity and mortality in our community overall.

In 2014, OPH staff directly administered almost 12,000 doses of influenza vaccine in our community clinics including under five clinics, group homes and Aging in Place residents. OPH's Immunization Program endeavors to achieve the greatest gains in immunization among these populations.

Partnerships and collaborations with other immunization providers are foundational to ensuring access to effective vaccines. In addition to provision of immunizations, OPH plays a unique role in the distribution of publicly funded vaccines, quality control programming such as cold chain inspections to ensure the effectiveness of the vaccines being administered across the community and the monitoring and reporting of adverse events related to vaccines.

Operational Strategies

- Continually analyze local immunization data to identify local inequities in immunization access and coverage and help plan and evaluate programming.
- Focus OPH vaccine delivery on populations at higher risk as well as populations facing physical, geographic, or other barriers.
- Prioritize OPH flu clinics to populations which have limited access to pharmacists and physicians, and continue to promote expanded access through physician and pharmacy providers. This will allow for efficiencies through the need for seven fewer community flu clinics in the 2015/2016.
- Explore utility of OPH's Immunization Centre to offer routine childhood immunizations for those who do not have access to primary care providers or face other barriers to immunization.
- Enhance the culture of immunization among OPH staff through increased cross-program awareness and collaboration.
- Leverage other OPH programs that work with vulnerable populations.

Phase 3: Across the Lifespan

Rationale

To date, OPH's Immunization Program has focused on meeting requirements set out in the Ontario Public Health Standards, with little to no resources left for additional programming. It is anticipated that once new surveillance systems are meeting their full potential, additional analysis of local immunization status will be possible. As noted in [Document 3](#) and [Document 4](#), in Ontario there are 17 diseases for which there are publicly funded vaccines. The recommendations for immunization vary across the life span, based on age, risk factors and effectiveness of different vaccines. Public health's

traditional focus has been on childhood and influenza immunization, but there is a need to better monitor and understand untapped potential for improving adult immunization.

As well, there are other vaccines available, but not publicly funded, in Ontario, that offer protection against serious illnesses such as herpes zoster (shingles) and travel-related diseases. These vaccines are provided by primary care providers and travel clinics; there are also indications that pharmacists may soon be authorized to administer them. While OPH is not currently involved in managing or delivering vaccines that are not publicly funded, promotion of all vaccines is an important strategy in achieving the goal of reduction or elimination of vaccine preventable diseases and consistent with OPH's coordination and stewardship role for immunization in Ottawa. The National Advisory Committee on Immunization regularly publishes updates for the use of vaccines currently or newly approved. Public and professional awareness of and uptake of some of the recommendations is limited. OPH intends to actively expand the profile of immunizations more broadly.

Recently, concerns have been expressed about increased vaccine hesitancy, with some individuals delaying, selectively accessing, or entirely refusing immunization^{7, 8}. OPH will seek to address vaccine hesitancy and promote public confidence in immunization across the life span, using targeted and evidence-based strategies that address the key factors contributing to vaccine hesitancy.

The ability to use technology to inform the public on the benefits and availability of immunization will increase uptake and improve overall effectiveness in preventing infectious diseases. Further efficiencies through electronic transfer of consents and records, digital communications, and new health related digital applications have unexplored potential.

A further mechanism to expand awareness, availability and uptake of vaccines is in deepening existing and new partnerships. As noted, schools and licensed daycares are critical to assist in undertaking surveillance and reaching parents with immunization programming. As well, partnerships with immunization providers will further enhance immunization counselling and improve availability of vaccines including publicly funded and optional vaccines such as travel or those intended for at risk populations. By extension, outreach to other health professionals such as obstetricians and long-term care residential facilities can increase uptake of vaccines that may be sub optimally distributed currently.

Operational Strategies

- Enhance OPH promotion of all vaccines, including those that are not currently publicly funded.
- Enhance outreach to sub-populations where coverage or vaccine uptake is low (e.g. during pregnancy).
- Integrate with other OPH programs and work with external partners to reach sub populations.

Recommendation 2: Approve that the Chair of the Ottawa Board of Health write a letter to the Minister of Health and Long-Term Care recommending that the Panorama information system be improved by:

- Optimizing functionality through enhancements to current features including the reporting functions on coverage and performance measures, the ability to upload consents, and improve capacity for parent notifications in both official languages;**
- Improving data collection of records for school-aged and pre-school children through integration of electronic medical records systems used in primary practice settings; and online self-reporting options used by parents, such as the ImmunizeCA reporting app.**

In 2013 and 2014, Ontario's Public Health Sector Strategic Plan *Make No Little Plans* (MOHLTC, 2013), the Office of the Auditor General of Ontario's Annual Report, and the Advisory Committee for Ontario's Immunization System Review Report all identified the need for a comprehensive provincial immunization registry to support surveillance of immunization coverage throughout the lifespan. The recently launched immunization module of Panorama is a first step toward this end. Introduction of the information management system offers new opportunity to collect, track and monitor local immunization data. For example, as Panorama is web based, it can be accessed in the field. Until connectivity through accessible information systems is established widely with community immunization providers, and interoperability issues with physician-based electronic medical records are affected, the major advantages to be realized are within the OPH administered school vaccination program. Real time immunization assessment and subsequent counselling; in turn ensuring more timely immunization boosters and catch up. However, connectivity may be an issue in some locations, staff require training in using the technology and quality assurance processes need to be in place. As noted there are still a number of technical issues to be worked out at a provincial system level. However, there is potential that this technology could be

leveraged to improve the timeliness and quality of the data, as well as reduce the resource burden currently required for surveillance.

Expediting of improved functionality to link with electronic medical records, and a portal for public vaccine reporting will increase program efficiency, improve data collection and reporting and result in a better understanding of the levels of immunity in Ottawa related to vaccine preventable diseases. Without these technological remedies, OPH will continue to face operational challenges related to surveillance including the ability to generate accurate and complete immunization data.

Recommendation 3: Direct staff to report back in 2016 on the progress of the Immunization Strategy

OPH will report back to the BOH in 2016 on progress of the Immunization Strategy.

RURAL IMPLICATIONS

Residents living in rural locations may have reduced access to immunization providers due to the physical distance and availability of vaccines. OPH intends to use geographic proximity and ease of access as a foundational consideration in planning of vaccine services. For the 2015-2016 Universal Influenza Immunization Program, OPH will offer clinics in rural locations if access to pharmacists is limited.

CONSULTATION

OPH routinely collects comments and feedback from stakeholders and the public on immunization services.

LEGAL IMPLICATIONS

There are no legal impediments to the implementation of the recommendations in this report.

RISK MANAGEMENT IMPLICATIONS

Potential risks and mitigation strategies are outlined in the body of this report.

FINANCIAL IMPLICATIONS

There are no financial implications to receiving this report.

ACCESSIBILITY IMPACTS

There are no accessibility implications to receiving this report.

TECHNOLOGY IMPLICATIONS

There are no technology implications to receiving this report.

SUPPORTING DOCUMENTATION

Document 1: Immunization by the Numbers

Document 2: Immunization Program and the Public Health Funding and Accountability Agreement

Document 3: Publicly Funded Immunization Schedules for Ontario, March 2015

Document 4: Immunization through the Lifespan, Ministry of Health and Long-Term Care

DISPOSITION

OPH will implement the recommendations of this report and will report back to the BOH in 2016.

REFERENCES

1. iPHIS, MOHLTC, extracted by Ottawa Public Health on May 29, 2015
2. Toronto Public Health. Toronto Unvaccinated: The impact of vaccination on the city's health – technical report. Toronto, January 2013.
3. Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, downloaded by Public Health Ontario. Date Extracted: May 20, 2015.
4. Ottawa Public Health. Report on the Vaccine Preventable Diseases Program Review. Ottawa, 2013.
5. Ontario Ministry of Health and Long-Term Care. Ontario's Publicly Funded Immunization System: Building on Today's Strengths, Innovating for the Future. Toronto, 2014. Retrieved from http://www.health.gov.on.ca/en/common/ministry/publications/reports/immunization/docs/immun_sys_review_march2014_en.pdf
6. Public Health Agency of Canada. Vaccine coverage in Canadian children: Results from the 2011 Childhood National Immunization Coverage Survey. Ottawa, 2011. Retrieved from <http://www.phac-aspc.gc.ca/im/nics-enva/vccc-cvec-eng.php>
7. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Immunization coverage report for school pupils: 2012-2013 school year. Toronto, 2014.
8. KPMG. City of Ottawa - Ottawa Public Health Vaccination Tracking Review Final Report. Ottawa, 2011.