



Moving to Acceptance: Toronto Public Health's Strategy to Address Vaccine Hesitancy

Date: September 9, 2019

To: Board of Health

From: Medical Officer of Health

Wards: All

SUMMARY

Vaccine hesitancy, the reluctance or refusal to vaccinate despite the availability of vaccines, is a growing concern in Canada. It stems in large part from misinformation about vaccines that spreads on social media platforms and the Internet. This staff report responds to the request for the Medical Officer of Health to report to the September 2019 meeting of the Board of Health with a strategy to address vaccine hesitancy.

To respond to this growing threat and address the root causes of vaccine hesitancy, and maintain high vaccination rates, Toronto Public Health has developed a comprehensive strategy that involves health care providers, parents, students, educators, and government agencies at the provincial and national levels. The strategy includes communication and education resources on multiple platforms that are accessible and user-friendly. It also includes recommendations to the provincial government to improve the availability and integration of electronic immunization systems and policy changes to improve vaccine acceptance. To strengthen the transparency surrounding vaccine safety, the establishment of a Vaccine Injury Compensation Program should be considered as well as more publicly accessible data on adverse events following immunization. Finally, recommendations are made to regulate social media platforms and search engines, and to enhance advertising standards in Canada to prevent and reduce the circulation of misinformation about the safety and effectiveness of vaccines.

RECOMMENDATIONS

The Medical Officer of Health recommends that:

1. The Board of Health request the provincial Minister of Health:

a. In keeping with the recommendations from the Premier's Council on Improving Healthcare and Ending Hallway Medicine:

1. ensure that the digital health immunization record is available to the health care provider, patient and/or guardian, and local public health unit;
2. set immunization coverage targets for the newly forming Ontario Health Teams and all primary care providers to promote accountability and monitoring of vaccination rates at the local level;
3. enable Health Quality Ontario to create personalized reports for local health care providers on vaccination rates in their practices; and
4. provide financial incentives to promote vaccinations for local health care providers.

b. Consider removing philosophical and religious exemptions under the *Immunization of School Pupils Act* and only accept medical exemptions completed by a certified health care provider.

c. Consider developing a provincial Vaccine Injury Compensation Program to strengthen vaccine safety and support those few individuals who may have a serious side effect from a vaccine.

d. Increase the functionality of Panorama, where the digital health immunization records (DHIR) are housed, to allow:

1. reporting of vaccines directly into Panorama at the time the vaccine is administered;
2. analysis at the local level to determine areas of low vaccination coverage, including geographic and equity disparities; and
3. reminder notifications to be sent automatically when a vaccination is due for a child.

e. Request the College of Physicians and Surgeons of Ontario to share with Toronto Public Health the email addresses of Toronto physicians to allow Toronto Public Health staff to provide timely resources to physicians to address vaccine hesitancy.

2. The Board of Health request Health Canada to consider developing a national Vaccine Injury Compensation Program to strengthen vaccine safety and support those few individuals who may have a serious side effect from a vaccine.

3. The Board of Health request the Registered Nurses' Association of Ontario to develop a best practice guideline on vaccine hesitancy and misinformation for nurses.

4. The Board of Health request all Toronto school boards and the Ministry of Education to adopt Kids Boost Immunity or develop similar curriculum on vaccines and vaccine-preventable diseases for all elementary schools.

5. The Board of Health request Health Canada and the Public Health Agency of Canada to increase the transparency of the safety of vaccines by:

a. providing a publicly-available and searchable online database of aggregate reports from the Canadian Adverse Events Following Immunization Surveillance System (CAEFISS); and

b. reviewing the information provided in the Product Monograph of vaccines to streamline the content and provide only clinically-relevant safety data.

6. The Board of Health request Ad Standards Canada to revise their Canadian Code of Advertising Standards to discourage advertisements that contain false and misleading statements against vaccines.

7. The Board of Health request major search engines and social media organizations, including Facebook, Google, Pinterest, Twitter, and Instagram, to adopt the Priorities for Action from the *Salzburg Statement on Vaccine Acceptance*, namely to:

a. develop principles that distinguish “levels of evidence” in the vaccine information they provide so that they can improve identification of disproven/inaccurate, false claims about vaccine safety for their users that have led to the return of childhood diseases, just as they do for sexually explicit, violent, and threatening messages; and

b. include information from robust scientific sources, particularly as unscientific misinformation puts vulnerable babies, cancer patients of all ages, and immune-compromised individuals at unnecessary and avoidable risk of serious complications, long-term disability, and the potential for death.

8. The Board of Health forward this report to Public Health Ontario, the Canadian Association of Broadcasters, the Canadian Marketing Association, the Association of Canadian Advertisers, the Ontario Public Health Association, the Association of Local Public Health Agencies, the Council of Medical Officers of Health of Ontario, the Ontario Medical Association, the Canadian Medical Association, and the Ontario Nurses Association.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendation in this report.

DECISION HISTORY

At its meeting on April 8, 2019, the Board of Health received a report entitled, *Addressing Vaccine Hesitancy*, and requested the Medical Officer of Health to report to the Board of Health, at its meeting on September 23, 2019, on Toronto Public Health's strategy to address vaccine hesitancy.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.HL4.3>

COMMENTS

Vaccines are safe, effective and one of the most important contributors to improving health worldwide and preventing the spread of infectious diseases. Immunizations also provide value for money and are often cost-saving; for example, each child immunized with the measles-mumps-rubella (MMR) vaccine saves \$16 in health care costs¹.

Toronto Public Health (TPH) performs a number of important roles that support the community to become fully vaccinated. Vaccine records for children in child care centres and schools are assessed to ensure receipt of required vaccinations. Toronto Public Health provides over 100,000 vaccines directly to students in schools to protect against human papillomavirus, meningitis and hepatitis B; to homeless and under-housed individuals to protect against influenza; and at community clinics to provide vaccines to students who urgently require vaccinations and/or do not have health coverage. Toronto Public Health nurses ensure that over 2,000 fridges properly store vaccines to ensure that they remain potent, investigate adverse events following immunization, and report these events to a national database to ensure vaccines remain safe.

Toronto Public Health assists health care providers with messages for their patients to support the choice to immunize. Toronto Public Health also provides scientifically-supported public education messages explaining the benefits of vaccination, correcting misinformation, and assisting people to make the decision to protect themselves and their children against vaccine-preventable diseases. Specialized information is provided directly to new parents, seniors, newcomers, and health-care providers.

The Growing Threat of Vaccine Hesitancy

Vaccine hesitancy is the reluctance or refusal to vaccinate despite the availability of vaccines. It is a growing concern internationally and has been identified as a top ten threat to global health by the World Health Organization (WHO)². In Canada, an estimated 20% of parents are vaccine hesitant and are unsure about the safety and effectiveness of vaccines.

In July 2019, the International Working Group on Vaccination and Public Health Solutions made up of concerned scientists, public health professionals and physicians, released the *Salzburg Statement on Vaccine Acceptance*. The Statement describes the growing threat of vaccine hesitancy and its impact on the rising rates of preventable infectious diseases, especially in countries where these diseases were once rare. It lays

out a number of priorities for action directed at governments, health care providers, parents, social media and search engines, to maintain public confidence in the community protection of vaccines, to address parental concerns, and to counter vaccine misinformation that has led to serious declines in community vaccination rates³.

The Need for a Vaccine Hesitancy Strategy

The WHO has recognized the need to develop strategies to address vaccine hesitancy. Their research found that no single intervention alone will work. Based on their systematic review of strategies, the most effective interventions are multi-component, dialogue-based, and directly targeted to a specific under-vaccinated population group. Engaging collaboratively with health workers, families, communities and local public health officials can generate the insights to develop better quality health services that support and enable recommended vaccination behaviours⁴.

Activities to Address the Components that Lead to Vaccine Hesitancy

As the WHO found, a multifaceted approach at the local, provincial and national levels is required to address vaccine hesitancy. Tailored interventions are required for various stakeholders, including health care providers, parents, students, educators, and the public.

(a) Empowering Health Care Providers

Providing support to primary care providers is an important role of local public health units. Toronto Public Health continues to develop resources for health care providers, and while these resources are well received by Toronto primary care providers, TPH lacks an efficient means of notifying them of new material or updates to current resources. As part of annual registration, the College of Physicians and Surgeons of Ontario (CPSO) now collects email addresses from local doctors. Having access to this list would ensure that TPH could provide resources to doctors and their practices in a timely and efficient manner.

At its most recent meeting, the Ontario Medical Association (OMA) Council passed a motion asking the OMA to construct a toolkit for family doctors and pediatricians. The toolkit would contain resources to promote and defend vaccinations for children and address the challenges faced by patients and parents in finding validated information on the risks and dangers of vaccinating. As part of this strategy, TPH is collaborating with the OMA to leverage their access to expert clinicians who can assist in further developing resources for this toolkit. Frontline clinicians can provide critical feedback ensuring this work fills the needs they see in communicating the benefits of vaccination to their patients.

Toronto Public Health is also planning a continuing education event for physicians in November 2019. The topic will provide an update on immunizations and strategies physicians can use to address vaccine hesitancy in their practice⁵. Family physicians and pediatricians are well placed to take on this role given their ongoing and trusting relationships with patients.

Community nurses are also very involved in ensuring widespread acceptance of vaccination. The Registered Nurses Association of Ontario (RNAO) develops best practice guidelines to support Ontario nurses in patient care. There are currently 50 published guidelines, and having a guideline for nursing practice that addresses vaccine hesitancy and misinformation would ensure that nurses have a standard of care to guide their work in promoting vaccine acceptance. Toronto Public Health has requested the RNAO initiate the work on this guidance document that will be a resource for the profession across the province⁶.

Equipping doctors and nurses with a strong knowledge base of vaccination information is critical to ensuring that they are comfortable talking with their patients about this important preventative intervention. To support this, TPH is working to have vaccine hesitancy material added to the curriculum for University of Toronto medical students, and recently contributed to an e-textbook on immunization for nursing students at Ryerson University.

(b) Empowering Parents and Adults

Parents want information on the risks and benefits of vaccines relevant to their situation that is presented to them clearly and in advance of their child being vaccinated⁷. However, often they have difficulty identifying credible information sources. Toronto Public Health continues to develop plain language, accessible, and user-friendly materials to answer parents' questions about vaccines, and to enable informed consent. Materials are developed based on the stage of life of the individual and family, and are available on multiple platforms and languages. For example, immunization information is integrated into prenatal teaching and is available in hospital birthing centres where parents can easily access it. Once children enter child care, TPH provides reminders of the importance of keeping a child's vaccinations up to date.

(c) Empowering Students and Educators

Contagious diseases can spread easily in schools. To prevent this from occurring, TPH enforces the [Immunization of School Pupils Act](#) to maintain high vaccine coverage rates⁸. Toronto Public Health works with school administrators each year to assess and update the immunization records of students and avoid school suspension. In addition, TPH posts online the vaccination and exemption rates in Toronto's publicly funded schools so that parents can see how their school is doing to maintain a safe and healthy environment for children to learn⁹.

Students of today become the parents of tomorrow. Empowering students with information about how vaccines work, their benefits, and the infectious diseases that they prevent, help make them more comfortable with decisions about their health and the health of their future children. It supports building autonomy in students as they gain an understanding of this area of health. Kids Boost Immunity is a free online learning resource for teachers that links science and social studies while allowing students to earn vaccines for children in need through UNICEF¹⁰. Students review lessons on the immune system, vaccines, antibiotics, and global inequality. The more a student learns, the more vaccines they earn for children in need. Adopting this program across Toronto schools, or developing a similar curriculum, would enable students to receive relevant

and tested curriculum on vaccines to learn about this important area of science and feel more comfortable consenting to vaccines when they are needed.

(d) Empowering the Public

On an on-going basis, TPH educates the public about vaccines, particularly when low cost/free ad space on City property can be leveraged. For example, in August 2019, parents were urged to "Add vaccines to their child's back-to-school checklist!" in bus shelter ads and the Toronto Parks, Forestry and Recreation's FUN Guide. As the places where parents get their information changes, TPH also focuses educational information on social media platforms. Toronto Public Health is currently developing a series of videos to educate parents on the effectiveness, benefits and safety of vaccines through the eyes of children. The campaign will appear on social media, and posters from the videos will appear in bus shelter ads and in public locations (libraries, community centres and schools).

(e) Restrict Advertising and False Messages

Messages describing the scientifically-proven benefits of vaccines need to be protected and maintained in an environment where misinformation and hoaxes can spread rapidly and unchecked, negatively influencing parents and contributing to vaccine hesitancy. Legislating restrictions on anti-vaccine information has to be balanced with the Charter right to free speech that all Canadians enjoy. Toronto Public Health has engaged with City of Toronto and Health Canada representatives to understand the possible avenues for restricting false and misleading messages about vaccines, including on City property. While restrictions on public messages have successfully been applied to public health issues such as tobacco, alcohol, and advertising to children, this has been possible as a result of federal and provincial regulation. Toronto Public Health has learned that applying restrictions against anti-vaccine messages is more difficult due to a lack of current applicable legislation. In the meantime, seeking voluntary means to achieve vaccine misinformation restrictions should be pursued.

Ad Standards Canada maintains the *Canadian Code of Advertising Standards (Code)*¹¹. The Code is the Canadian advertising industry's principal instrument of self-regulation. It sets the standards for acceptable advertising and forms the basis for the review of complaints about advertising. It applies to advertising of products and services in any medium, and includes non-commercial messaging. The Code prohibits inaccurate and misleading advertisements, but does not specifically deal with anti-vaccine content. Amending the Code to specifically prohibit anti-vaccine content that is inaccurate or misleading and not science-based, as a self-regulation instrument, could impact the ability of anti-vaccine groups to advertise across all mediums. Engaging and educating Ad Standards Canada to urge them to make this change could be beneficial to the public's health.

(f) Addressing Misinformation on Social Media and Search Engines

Popular social media and search engine platforms such as Facebook and Google have already started to address anti-vaccine content on their sites, and have acknowledged the detrimental role they have played in spreading misinformation about vaccines.

These platforms should continue to pursue and implement further restrictions on advertising and the posting of content about vaccines that is misleading or false. The *Salzburg Statement on Vaccine Acceptance* urges search engines and social media platforms to:

"a) develop principles that distinguish "levels of evidence" in the vaccine information they provide so that they can improve identification of disproven/inaccurate, false claims about vaccine safety for their users that have led to the return of childhood diseases, just as they do for sexually explicit, violent and threatening messages; and

b) include information from robust scientific sources, particularly as unscientific misinformation puts vulnerable babies, cancer patients of all ages and immune compromised individuals at unnecessary and avoidable risk of serious complications, long term disability and potentially of death" (3).

(g) Improving Electronic Immunization Record Keeping

Panorama, the provincial electronic immunization database, currently contains records of childhood vaccinations reported to TPH by parents. Ensuring that immunization records enter Panorama directly from a doctor's electronic medical records at the time they are given would have many benefits. The functionality currently available in Panorama could be used to send personalized reminder letters to parents based on the provincial vaccine schedule, something that has shown to improve vaccine uptake. Assessment of student records would improve as a student's full immunization record would be available at school entry for assessment without relying on parental reporting. As well, improving Panorama's functionality could make detecting neighbourhoods with low vaccination coverage easier so that TPH could focus efforts on improving uptake in these areas of Toronto.

(h) Enhance Effectiveness and Accountability through Digital Health Solutions

Greater use of digital health solutions such as Panorama was highlighted in the first two reports of the Premier's Council on Improving Healthcare and Ending Hallway Medicine¹². The Premier's Council made recommendations about ensuring that health information such as digital immunization records are available to health care providers, patients, and health system partners, such as local public health. These recommendations are aligned with improvements sought for Panorama that would greatly enhance the efficiency and effectiveness of the province's vaccination programs. With enhanced use of digital health solutions, immunization coverage targets could be created for the newly forming Ontario Health Teams to promote accountability and monitoring of this important health indicator, and quickly detect communities in danger of losing "herd immunity" for one or more diseases.

In addition, Health Quality Ontario has created personalized reports for health care providers on patient metrics, which could also include vaccination rates in their practice. Finally, as the health system transforms, providing financial incentives to promote vaccinations for local health care providers could promote improved health outcomes for patients, population health, and increased value for taxpayers¹².

Philosophical and Religious Exemptions under the Immunization of School Pupils Act

Over the last 13 years, among Toronto elementary and secondary school students, there has been a slow and small, but steady increase in philosophical and religious exemptions, from 0.8% for the measles, mumps and rubella (MMR) vaccine in the 2006/07 school year to 1.72% in the 2018/19 school year. This trend has also been observed provincially¹³. This exemption rate is still low in comparison to rates in United States (U.S.) jurisdictions with school-attendance vaccine requirements. In the U.S., elevated non-medical exemption rates have led to the circulation of rare and dangerous vaccine-preventable diseases such as whooping cough (pertussis) and measles. U.S. states, such as California, which have removed non-medical exemptions, have shown improved immunization rates in schools¹⁴. Before philosophical and religious exemption rates reach dangerously high levels in Toronto, it is important and timely for the provincial Ministry of Health to consider removing philosophical and religious exemptions from its legislation.

Vaccine Safety through Improved Transparency on Adverse Events

Many parents are concerned that vaccines are not safe because of false or misleading information about the link between diseases of childhood such as autism and vaccination administration. Improving the transparency surrounding adverse events following immunization (AEFI) is important to reaffirm and reassure the public that these events are investigated and recorded, and that vaccines continue to be safe. All AEFIs are investigated by TPH and reported to the Province, and then to the Canadian Adverse Events Following Immunization Surveillance System¹⁵. Creating a national publicly available and searchable database of these investigations will improve access to this information so that parents who are interested can access it. In addition, the documentation that accompanies each vaccine in the Product Monograph, required by Health Canada, contains observational data about rare adverse events that may be unrelated to vaccine administration, is not required for informed consent, and can be confusing. This information should be removed to streamline this documentation and reinforce how safe vaccines really are.

Vaccine Injury Compensation Program for Ontario

While vaccines are safe, in rare instances, serious reactions can occur (in about 1 out of 1 million to 1 out of 10 million doses administered). A Vaccine Injury Compensation Program is a 'no-fault' compensation program funded by governments that compensate individuals who are potentially harmed by vaccines. Compensation programs exist in 17 high-income countries, but in only one province in Canada, Quebec. In Quebec, the amount of compensation is determined by earnings and medical costs. Over a 40 year period, Quebec has paid \$5.49 million in compensation, which is approximately \$135,000 per year. Developing a vaccine injury compensation program in Ontario or nationally would strengthen vaccine acceptance, and provide strong ethical public health policy¹⁶.

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