Canadian Guidance on Addressing Vaccine Hesitancy to Help Foster Vaccine Demand and Acceptance

Section 7. Monitoring and Evaluation of Programs Addressing Vaccine Hesitancy

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Building Resilient Pro-Vaccine Communities

Building the capacity to improve vaccine acceptance and uptake

The Canadian Vaccination Evidence Resource and Exchange Centre (CANVax) is an online database of curated resources to support immunization program planning and promotional activities to improve vaccine acceptance and uptake in Canada. As an online resource centre, CANVax aims to increase access to evidence-based products, resources, and tools to inform public health professionals in immunization program planning and promotion.

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PREFACE

This document was adapted from the **Western Pacific Regional Guidance on Addressing Vaccine Hesitancy to Help Foster Vaccine Demand** document, drafted in 2017 in response to the recommendation at the meeting of the Technical Advisory Group (TAG) on Immunization and Vaccine-Preventable Diseases in the Western Pacific Region (WPR), in July 2016.

Purpose and Specific Objectives of the Guidance as per WPR

The main purpose of the regional guideline on vaccine hesitancy is to help Member States to:

1. Identify the extent of vaccine hesitancy in the country.
2. Identify vaccine-hesitant population subgroups.
3. Diagnose the demand- and supply-side immunization barriers and enablers.
4. Design evidence-informed strategies to address hesitancy appropriate for the subgroup setting, context and vaccine.
5. Receive and provide support for regional coordination to successfully address vaccine hesitancy in the country.

The initial WPR draft, including the two Aide Memoires, was written by Noni E MacDonald, Dalhousie University, Halifax Canada, with input from Eve Dubé, Institut national de santé publique du Québec, Québec, Canada, Lisa Menning and Melanie Marti, Immunization, Vaccines and Biologicals, World Health Organization (WHO), Geneva, Switzerland and Sarah Long, Dalhousie University.

Canadian Guidance

The WPR document was then re-crafted by Noni E MacDonald and Eve Dubé to address the Canadian context, and sections were updated.

Each section has been written to integrate with the other sections but also to be able to stand alone. The main emphasis is on the diagnosis of hesitancy and focuses on interventions that can increase vaccine uptake at the program and individual levels.

For the full report of the Canadian Guidance on Addressing Vaccine Hesitancy to Help Foster Vaccine Demand and Acceptance, please visit https://canvax.ca/canadian-guidance-addressing-vaccine-hesitancy-help-foster-vaccine-demand-and-acceptance-full.

Canada has historically benefited from a relatively high rate of immunization against most vaccine-preventable diseases. However, it is well established that not all Canadians get immunized; recent outbreaks of measles and pertussis underscore this reality. Vaccine hesitancy, along with lack of access to vaccination services, lack of awareness or lack of strong recommendations by healthcare providers can be associated with underimmunization or non-vaccination. As noted in Section 2 (Vaccine Hesitancy Globally and in Canada), vaccine hesitancy is a global problem affecting most countries, including Canada. However, the reasons for hesitancy vary. Vaccine hesitancy is changeable, varying by time, setting, vaccine and context.[1] As vaccine hesitancy is unpredictable, monitoring for hesitancy and evaluating the outcomes of interventions is required so that provincial and territorial programs can track the degree of hesitancy, its impact on uptake in a population and in subgroups, and the effectiveness of their interventions to address hesitancy. This also needs to be tracked nationally to give a pan-Canadian perspective. Currently this is done through the biannual Canadian National Immunization Coverage Surveys – the childhood National Immunization Coverage Survey [cNICS] and the adult National Immunization Coverage Survey [aNICS] (see Section 2 and 3 [Strategies to Detect Vaccine Hesitancy]). Both surveys have significant methodological limitations, including: the potential inaccuracy of self/parent reporting; small sample sizes; low response rates; frequent methodological changes that make multi-year comparisons of coverage challenging; and under-representation of special populations (e.g., First Nations people living on reserves, individuals whose first language is neither English nor French). Furthermore, cNICS offers no rapid, regional, or focal assessment for hesitancy. If a crisis in confidence is occurring, this may be noted by frontline health immunizers in clinics and in office practices, but the degree and extent cannot be rapidly determined.

What can be done?

Online tracking

Given the widespread use of smart phones, online surveys and tools that track what vaccine information is being sought, what questions are being raised and what is being shared on social media networks can also help immunization programs better understand the hesitancy topography in the country.

"Infodemiology"(a combination of information and epidemiology) and "infoveillance" (a combination of information and surveillance) can be acquired when " big data" is analyzed to track what parents and patients are searching for on health-related internet sites and/or when communicating with others about health using social media.[2] This "fast" or "big" data tracking techniques can be applied to assessing hesitancy and pro- or anti-vaccine sentiments within a country or region in a country. For example, analysis can reveal different social networks and their levels of hesitancy, the social climate for vaccination in different areas of a country, and how rapidly and far a specific vaccine concern is spreading. Geo-mapping can then locate subgroups either spatially or show connectedness on the internet.

While the tools used to track internet sites accessed and social media spread of content were initially very expensive and required a very high degree of computer coding knowledge and expertise to use. Now, many tools are available online, easier to use and are available at no cost. For example, Twitter posts concerning HPV vaccine have been tracked and sorted for sentiment using Twitter application programming interface.[3] While this still requires some computer programming literacy, Twitter does provide helpful insights on how to perform searches (https://dev.twitter.com/rest/reference/get/search/tweets). In another example, concerns about the HPV vaccine – that led to a suspension of the vaccine in Japan in 2013 – were tracked to see if a global spread had occurred using Google Alerts and Google Searches to find websites, online newspaper stories, social media pages, technical reports, online blogs, and YouTube videos that focused on the Japanese story.[4] Google Alerts and Google Search are both free, easy to use and very familiar to internet users. Google Analytics and other similar tools can provide another level of sophistication for searches and tracking. For example, in 2012, findings of an analysis of readers' online responses to Canadian news articles regarding the Quebec measles outbreak showed that the anti-vaccine minority's volume of comments translated to a disproportionately high representation on online boards.[5] The provinces' and territories'

immunization programs might work together with the Public health Agency of Canada to learn how these tools can be most effectively used to track hesitancy and detect crisis.

Regionally – Canada and the Pan-American Health Organization (PAHO)

At the regional level, Canada needs to contribute to PAHO initiatives in tracking of vaccine hesitancy problems across the region. Trends, impact of interventions and impact on vaccine acceptance can be helpful in shaping current and future PAHO responses. There are many actions that can be taken to specifically support countries in tracking hesitancy and monitoring effectiveness of interventions. Developing a bank of PAHO-validated survey questions acquired from different countries in the region could streamline the survey process for different countries. Countries could select the most relevant questions related to their setting, religious background, vaccine of interest and context. Sharing findings across the region can help grow understanding of the complexity of hesitancy and what might work in which settings with which problems.

Optimizing and streamlining online monitoring and analysis of "big data" for tracking of vaccine hesitancy may be better done not as a "one off" but as an ongoing program, so that expertise is built up not only in gathering the data but also in how to use this information at the program level to tailor interventions. Clearly, not all countries in the PAHO region will have the expertise or interest in doing this, especially if they are starting from scratch. Is there a need? Is there interest? How helpful is such work? Can it, and does it, help shift and tailor program interventions? To what effect? Can Canada help? What can Canada learn from others in the PAHO region? Sharing experiences, expertise, findings and lessons learned in this area across the region could be very helpful so that thoughtful decisions about the need for and benefits of these tools can be made, bearing in mind each country's context and needs.

KEY POINTS

- Vaccine hesitancy is changeable, varying by time, setting, vaccine and context. Data are needed at the regional and local levels.
- There is a need for a National Immunization Program to track the degree of hesitancy, its impact on uptake in a population and in subgroups, and the effectiveness of their interventions to address hesitancy.
- A number of tools can be used to track vaccine hesitancy concerns on social media at no additional cost beyond program personnel.
- Building program expertise to monitor "big data" can help support immunization program decisions in addressing hesitancy.

References

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