

Towards Equity in Immunization: The Immunization Reminders Project

Background

High rates of vaccine coverage among populations, such as children, are important for immunizations to be successful and for herd immunity^a to occur. In 2006, we found statistically significant differences (i.e., disparities) in immunization coverage rates between two-year-old children in the city of Saskatoon based on where they lived. In early 2007, a grant was obtained from the Canadian Institutes of Health Research (CIHR), in partnership with Saskatoon Tribal Council (STC), to fund an intervention to increase immunization coverage rates among young children, called the 'immunization reminders project.'

Purpose

The purpose of the 'immunization reminders project' is to increase overall immunization rates and to promote equity in vaccine coverage rates among two-year-olds in Saskatoon Health Region (SHR).

What is involved with the 'immunization reminders project'?

The intervention, the 'immunization reminders project', began in October of 2007 and involves contacting the parents/guardians of 14-month-olds and 20-month-olds in SHR who are behind in their immunizations. Initially, these reminders were made by telephone. As of January 2009, reminder phone calls were largely discontinued due to staffing changes, and instead reminder letters were mailed to parents. This change in protocol did not appear to affect the effectiveness of the intervention.

How have we determined if the intervention is effective?

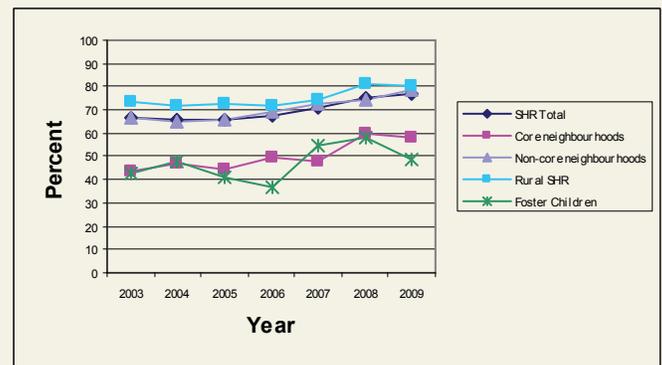
To evaluate the effectiveness of the 'immunization reminders project,' coverage rates for Measles, Mumps, and Rubella (MMR) and Diphtheria, Polio, Tetanus Toxoid, Pertussis, and Haemophilus Influenza type B (DaPTP-Hib) were examined pre- and post-intervention. Rates were compared for all of SHR and also for four sub-groups: core neighbourhoods^b, non-core neighbourhoods, rural SHR, and foster children. To test for significance, rate ratios and confidence intervals were calculated.

a. Herd immunity is the resistance of unvaccinated individuals to a particular disease due to the immunity that exists in the majority of vaccinated individuals in a population.
b. The core neighbourhoods consist of: Confederation Suburban Centre, Meadowgreen, Pleasant Hill, Riversdale, Westmount, and King George.

What we found...

- Since the introduction of the 'immunization reminders project' in October of 2007, immunization coverage rates among two-year-olds for MMR have increased 6.1% from 2007 to 2009 in SHR (Fig.1). Similarly, since October of 2007 immunization coverage rates among two-year-olds for DaPTP-Hib have increased 3.4% from 2007 to 2009 in SHR.

Figure 1. Two-year Measles, Mumps and Rubella (MMR) Coverage Rates, 2003-2009, SHR.



- Children from the core neighbourhoods in Saskatoon were less likely to have up-to-date immunizations for both MMR and DaPTP-Hib than children from the non-core neighbourhoods. The differences were statistically significant for all seven years studied (2003-2009).
- Although not yet statistically significant, the disparities in coverage rates between the core and non-core neighbourhoods appears to be decreasing.
- Children from Saskatoon were less likely to have up-to-date immunizations for both MMR and DaPTP-Hib than children in the rural areas of the region. However, this difference was only statistically significant for four of the seven years studied (2003, 2004, 2005 and 2008).
- Foster children had the lowest rates of all sub-groups analyzed. In 2009 their MMR rates were 28.6% less than SHR as a whole, and their DaPTP-Hib rates were 33.6% less than SHR as a whole.

Limitations

- We can not attribute the increase in immunization rates to the 'immunization reminders project' alone, as there could be other unaccounted explanations for the increase.
- It is often difficult to determine if a child has remained in SHR or moved to another region/ province. This could result in a lower coverage rate, as children could potentially remain in the system after they have moved, but their record would not include up-to-date information.
- Contacting individuals from vulnerable populations is difficult due to lack of telephone, lack of permanent residence, as well as often being highly mobile.
- First Nations health organizations immunize a significant number of children, but health regions do not have access to these immunization records.
- Children that come from out of province, or more specifically, out of country, do not always follow the same immunization schedule as Saskatchewan. This can result in lower immunization rates (both current and previously calculated) if these children are not up-to-date with the Saskatchewan schedule.

Recommendations

In addition to the continuation of the 'immunization reminders project,' next steps include: *(please view the report for a full list of recommendations)*

- Access to Saskatchewan Immunization Management System (SIMS) for all organizations or health care providers that immunize.
- Developing a new system for keeping foster children up to date with immunizations.
- Exploring other ways to promote access to immunization services (e.g., home visits, partnering with other agencies) for families with access and/or socioeconomic barriers.

- Increasing access to services by offering evening and weekend hours in immunization clinics.
- Exploring other media sources to connect with families (e.g., Facebook, text messages, emails).
- Implementing an Immunization Awareness campaign, specifically addressing barriers identified by clients when accessing clinics.
- Ensuring there is never more than a two week wait to get in for an immunization appointment at any clinic.

Summary

Overall, immunization coverage rates in SHR have increased for both MMR and DaPTP-Hib since 2007, when the 'immunization reminders project' was implemented. However, more work is needed to further increase the immunization coverage rates in SHR, particularly in the core neighbourhoods where rates are still significantly lower than the rest of the city. This study demonstrates that implementing a few key changes in services and policy has the potential to increase immunization coverage rates in SHR to 85%, which could provide herd immunity region wide.

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To view the full report, please visit
www.saskatoonhealthregion.ca/PHO