

Hot Topics - Childhood Immunization

Immunization is the most effective way to prevent infectious disease. Worldwide, childhood immunization rates are a recognized measure of the health of a population and the performance of the health care system. In Canada, most regions do not meet the national immunization goals. Within the Saskatoon Health Region there are disparities in immunization rates between rural and urban areas and from neighbourhood to neighbourhood.¹⁻⁴

Immunization coverage rates are defined as the **percentage of children with the recommended number of doses** at a given age. Two years is a recognized age for comparing rates. Vaccine schedules must be followed in order for vaccinations to be complete by two years. Routine childhood immunization against diphtheria, pertussis, tetanus, polio and *Haemophilus influenzae B* (DaPTP-Hib), for example, start at 2-months of age. Children receive a series of the vaccine at scheduled times until they are two years old.

What influences immunization rates?

Childhood immunization rates are influenced by factors such as: poor access to child health clinics, low education, limited family support, and poverty.^{1,2,5} Research in the Saskatoon Health Region suggests incomplete immunization is often associated with low income. Other factors such as single parenthood, cultural status, and differences in beliefs also play a part. One study showed that children from low income families were 72% less likely to be fully immunized at age two compared to other children.²

Working to improve rates

The Saskatchewan Ministry of Health, Federation of Saskatchewan Indian Nations, the Saskatoon Health Region and the Saskatchewan College of Physicians are key partners working to improve childhood immunization. Since 2005 the Health Region has introduced a number of approaches to improve childhood immunization rates. These include reminder telephone calls, as well as strategies in the six core neighbourhoods. The Building Health Equities (BHE) program in the core neighbourhoods has employed staff to reach new mothers by phone and home visits. Since the BHE program was introduced there has been an improvement in the percentage of babies that start their immunization series on time at 4 months.⁶

Health Region Coverage Rates

2yr MMR (%)

2009/10 Q4 (Jan1-Mar 31, 2010) = **69.6**

2010/11 Q1 (Apr 1 – Jun 30) = **74.0**

2010/11 Q2 (Jul 1 – Sep 30) = **74.7**



Keep an eye on the road. The indicator above shows the Region's quarterly (Q) coverage percent for measles, mumps and rubella (MMR).

Note: confidence intervals are not presented here; variations may not be statistically significant.

Source: SIMS Coverage Rates by Antigen – Sims

Click to Jump to Articles and Links

- [Health Status Report 2008 Immunization \(see p. 56\)](#)¹
- [Health Disparity in Saskatoon: analysis to intervention \(see p. 166\)](#)²
- [Immunization Report 2005](#)³
- [Improving Preschool Immunization Coverage Rates in Targeted Nbhds](#)⁵
- [Rural Health Status Report](#)⁶
- [Other resources](#)

Chart 1: Saskatoon Health Region two year immunization coverage, shows the percentage of children who have received the correct number of doses on or before their second birthday. The number of recommended doses is shown beside the antigen name (antigens are received in combination in vaccines, such as MMR, which protects against measles, mumps and rubella). For example, in 2009, 76.1 percent of two year olds had received 2 doses of measles antigen. After some decrease between 2000 and 2006 the overall trend for two year old coverage percentage in SHR has been increasing.

Chart 2 shows the 2 year-old coverage for measles and rubella (MR) in the core, non core and rural SHR. All coverage has increased since 2007 but the gap between core neighbourhoods and the rest of SHR is decreasing.

Chart 3 compares 2 year old rural and urban Saskatoon coverage rates for two different vaccines, protecting against diphtheria, pertussis, tetanus, polio and *Haemophilus influenzae* B (DPTP-Hib) and protecting against measles, mumps and rubella (MMR). Rural coverage is consistently higher than urban.

** See Definitions in the CVC Resource Catalogue for complete description of the numerator, denominator and data limitations.*

Charts & Maps

1. [Two-year-old immunization coverage by antigen, SHR, 1999-2009](#)
2. [Two year-old MR coverage by geographic area, SHR, 1999-2009⁴](#)
3. [Two year-old coverage by vaccine, Saskatoon and Rural, 2002 - 2009](#)
4. [2 year-old MMR coverage, 2009 and prevalence of low income families, 2006, Saskatoon \(map\)](#)

Chart 1. Two year-old immunization coverage by antigen, SHR, 1999-2009

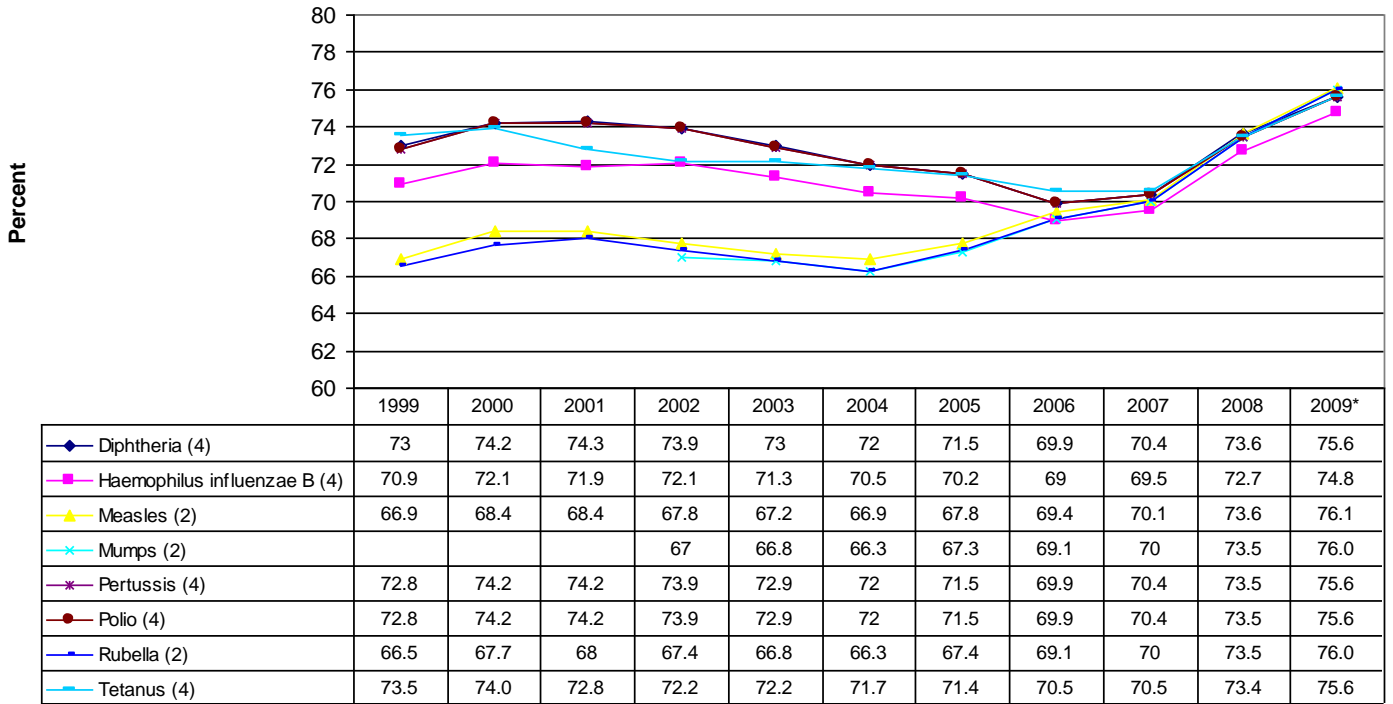


Chart 2. Two year-old MR coverage by geographic area, SHR, 2002-2009

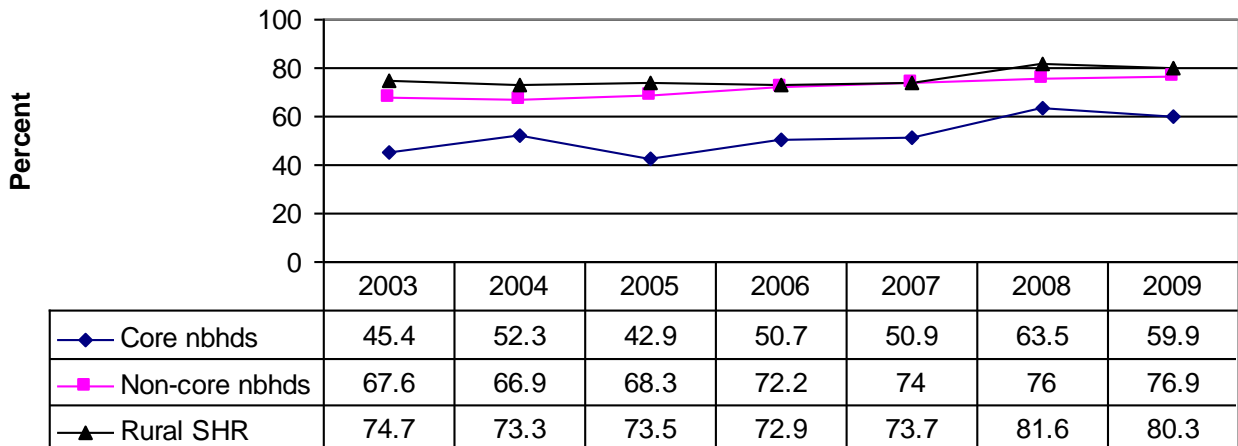
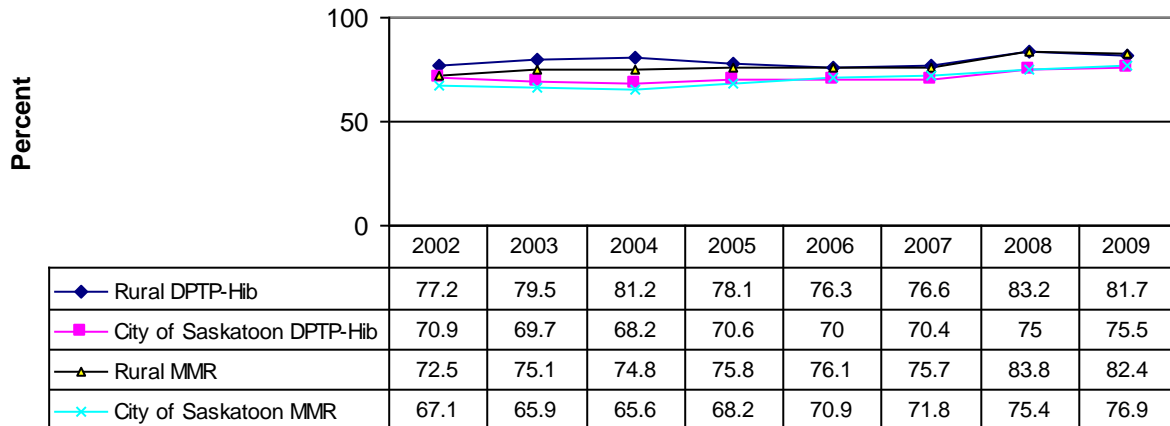


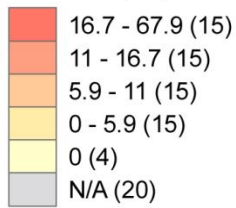
Chart 3. Two year-old immunization MMR coverage by vaccine, SHR, 2002-2009



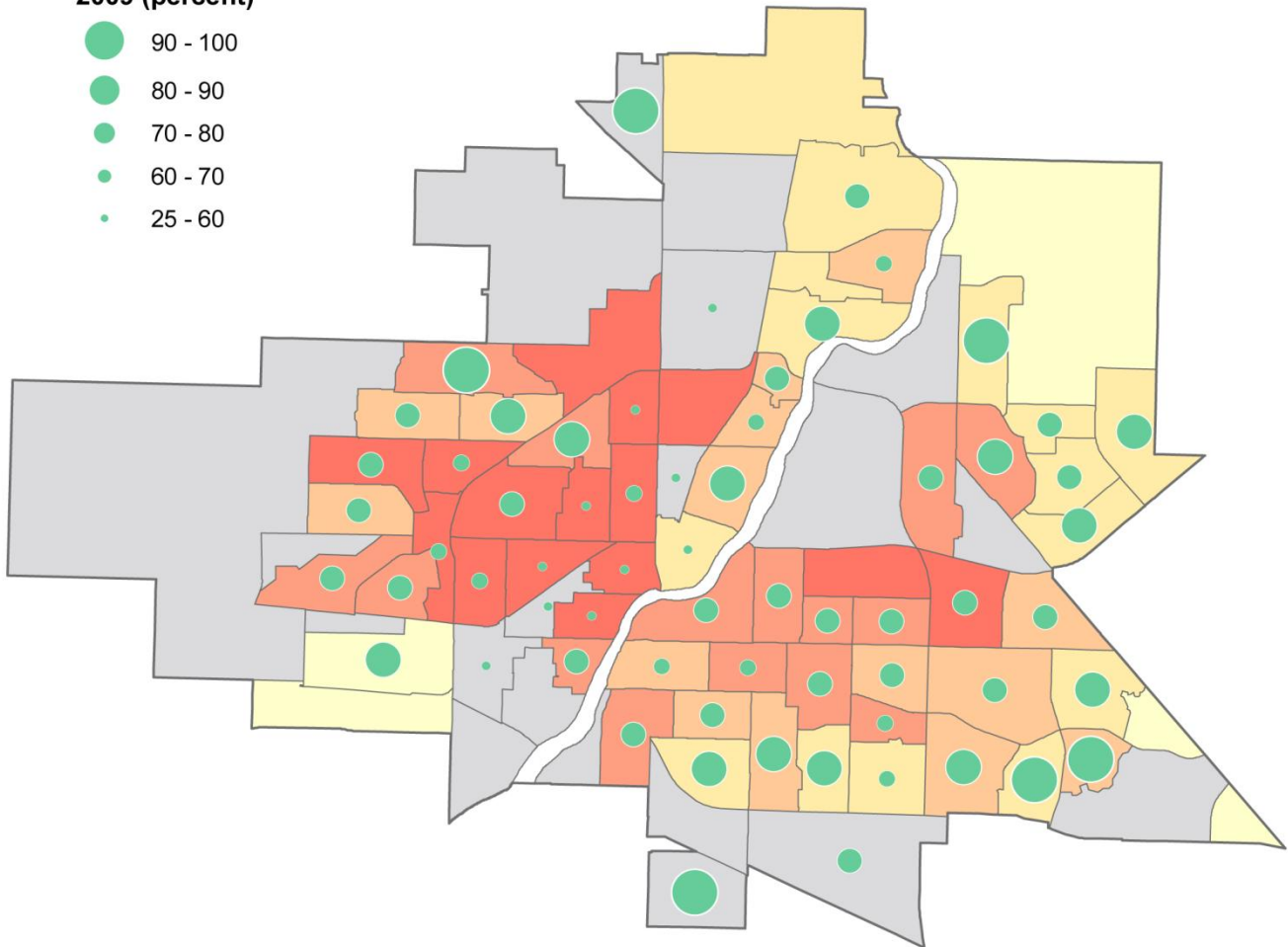
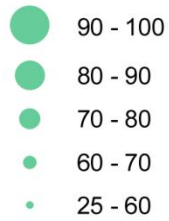
The map below shows 2 year-old MMR coverage and the prevalence of low income by neighbourhood. The dark orange areas indicate the neighbourhoods with the highest percentage of residents with low income. The neighbourhoods with the lowest immunization coverage (smallest dots) tend to be located in the neighbourhoods with the highest percentage of low income (dark orange areas). Conversely, the neighbourhoods with the highest immunization coverage tend to be located in the neighbourhoods with the lowest percentage of low income (pale orange to yellow).

For the data table displaying the actual percentages of two year-old MMR immunization by neighbourhood and Census subdivision please see CVC Resource Catalogue under Health Indicators.

**Total - Prevalence of low income before tax,
20% sample, 2006 (percent)**



**2 year MMR immunization coverage,
2009 (percent)**



Prevalence of low income before tax

Part A - Plain language definition:

Percentage of economic families or persons not in economic families who spend 20% more than average of their before-tax income on food, shelter and clothing.

Part B - Detailed definition:

The prevalence of low income before tax is the proportion or percentage of economic families or persons not in economic families in a given classification below the before tax low income cut-offs. These prevalence rates are calculated from unrounded estimates of economic families and persons not in economic families 15 years of age and over.

Source: Statistics Canada, 2006

Theme Reports and Links:

2008 SHR Health Status Report

http://www.saskatoonhealthregion.ca/your_health/documents/PHO/shr_health_status_report_2008_full.pdf

Health Disparity in Saskatoon: Analysis to Intervention

http://www.saskatoonhealthregion.ca/your_health/documents/PHO/HealthDisparityRept-complete.pdf

Immunization Report 2005

http://www.saskatoonhealthregion.ca/your_health/documents/ImmunizationReport2005_001.pdf

Disparity in Childhood Immunizations

http://www.saskatoonhealthregion.ca/your_health/documents/Lemstra_Immunization_2007.pdf

2009 Rural Health Status Report

http://www.saskatoonhealthregion.ca/your_health/documents/PHO/2009RuralHealthStatusReport.pdf

Other resources

The National Advisory Committee on Immunization (NACI) recommends childhood immunization schedules in Canada. The Saskatchewan Ministry of Health sets the standard schedule for the province.

NACI

<http://www.phac-aspc.gc.ca/naci-ccni/index-eng.php>

Canadian Immunization Guide Seventh Edition – 2006

http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/cig-gci-2006_e.pdf

National Immunization Goals and Target, *Canadian National Report on Immunization, 1996*

http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/97vol23/23s4/23s4d_e.html

Canadian National Reports on Immunization

<http://www.phac-aspc.gc.ca/im/natreports-eng.php>

Saskatchewan Ministry of Health

<http://www.health.gov.sk.ca/immunization-full-manual>

Public Health Agency of Canada – Immunization and Vaccines

<http://www.phac-aspc.gc.ca/im/index-eng.php>

CDC Atlanta Vaccines and Immunizations

<http://www.cdc.gov/vaccines/>