

# Improving Equity in childhood immunization in Saskatoon

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# Concepts

- Health Inequality
  - Differences in health or health services between subpopulations
- Health Inequity
  - Differences in health or health services that are unjust or unfair
- Proportionate Universalism
  - Resourcing and delivering of universal services at a scale and intensity proportionate to the degree of need
  - “Equal service for equal Need”

# Low and Middle income country Immunization inequality (WHO, 2014)

Indicator (one yr olds)	Median difference between richest and poorest quintile (%)	Percentage of 68 countries with coverage at least 20 % higher in richest than poorest quintile
BCG	5	25%
Measles	7	31%
DTP3	9	34%
Polio	7	18%
Full	8	30%

State of inequality: childhood immunization. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO

# Background

- In 2006, an analysis of up-to-date immunization coverage (2 doses of MMR by age 2 yrs) was done by neighborhood in Saskatoon
- Average coverage rates were 49.9% in six low income neighborhoods vs 80.8% in five affluent neighborhoods
- A CIHR funded phone survey was conducted on parents of children behind in immunization to ascertain attitudes and barriers to immunization
- Over the following 10 years, serial initiatives have been undertaken and evaluated with the aim of both improving overall coverage while narrowing the disparity gap.
- Routine monitoring and reporting at small area geography is done to give feedback to staff about progress to date and guide improvement initiatives
- Performance is reviewed weekly at the front line and monthly at the senior management level and was reviewed at the governance level early on.

# Population wide interventions

- System wide automated voice messaging system reminder system for all children under age 2 yrs behind by 2 months for routine immunization,
- Personal reminders for all children 20-24 months behind by one month
- Proactive reminders sent for children at 12 months and 4 years of age

# Achieving Equity in Immunization Coverage: A Snapshot of Actions (2007-2013)

Through ongoing Health Care Equity Audit (HCEA) cycles, Saskatoon Health Region has made improvements in coverage rates. Here's how:

Actions Taken	Results Achieved
<p><b>2007:</b> Immunization Reminders Project initiates telephone reminders to parents for 14 and 20-month-olds behind in their immunizations. The Building Health Equity (BHE) program established in low coverage neighbourhoods and Public Health Nurses and Community Program Builders provide more targeted services.</p>	<p>Immunization coverage among two-year olds for MMR (measles, mumps, rubella) increased by 6.1%.</p> <p>The gap in coverage between the core and non-core neighbourhoods narrows.</p>
<p><b>2008:</b> Enhanced tracking of immunizations in BHE program. Home visit reminders.</p>	
<p><b>2009:</b> (H1N1 year) Reminder letters mailed to parents. Additional drop-in clinics arranged.</p>	
<p><b>2010:</b> Increased efforts to promote immunization including use of social media. Immunization services offered in select schools. Improved notification for parents of foster children. Partnered with Open Door Society to provide clients with translations services so they could provide their immunization history removing a major barrier to providing service. Monitored children behind in immunization.</p>	<p>Coverage in core neighbourhoods rises to 60% from 48% in 2006.</p>
<p><b>2011:</b> Letters for all children behind in immunization. Good Food Store coupon incentives for children specific neighbourhoods. Phone call reminders for parents immediately prior to appointments. Worked with schools to better connect with newcomer families. Added text message reminders in BHE neighbourhoods.</p>	<p>First time equity target achieved by increasing services to “level up” coverage rates to non-core residents. Core neighbourhoods increase coverage 13%, the greatest increase since 2007.</p>

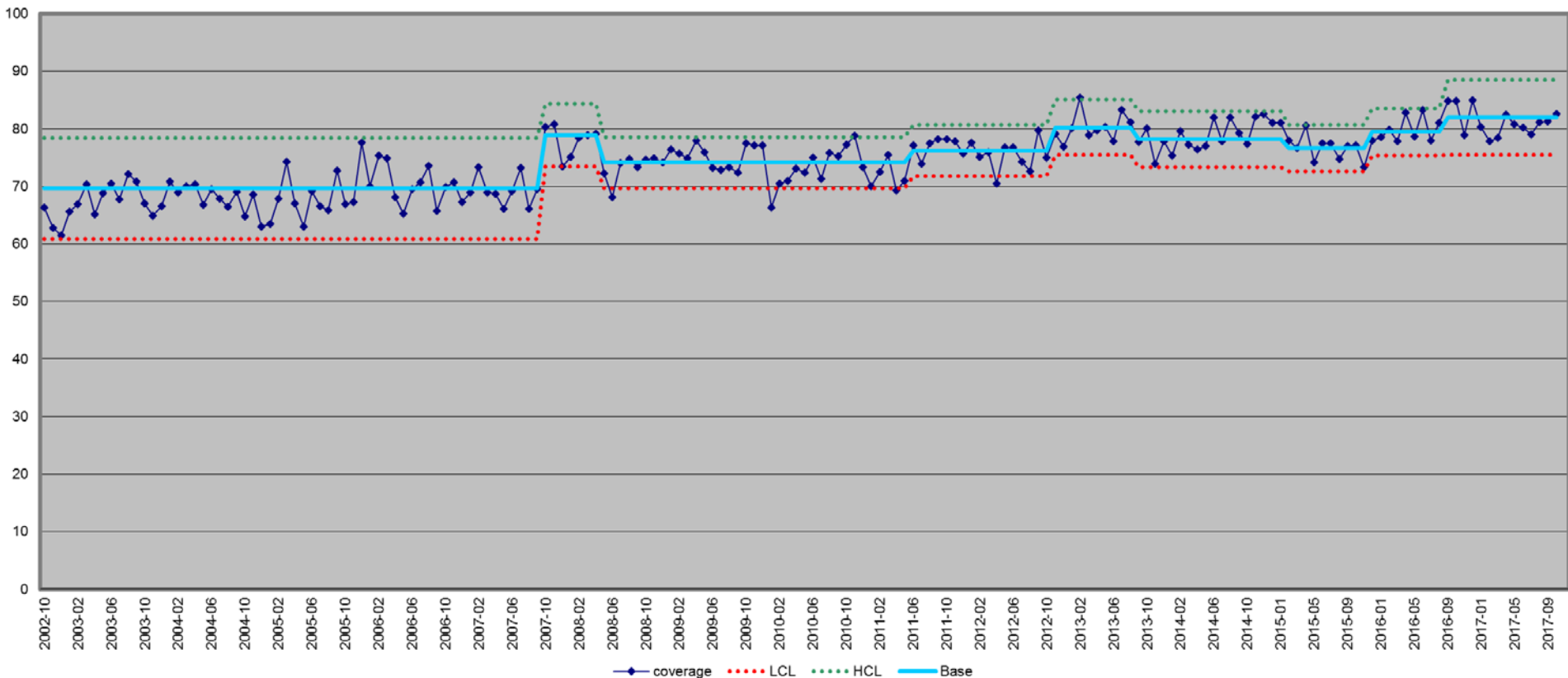
<p><b>2012:</b> Autodialer phone reminder system introduced. Increased number of available appointments for low coverage neighbourhoods. Community Program Builder provided targeted phone calls and follow up with low coverage residents. Provided incentives including taxi vouchers and bus tickets to tackle transportation barriers. Expanded clinics to other locations.</p>	<p>10 of 14 low coverage neighbourhoods made gains in coverage between 2009 and 2012.</p>
<p><b>2013:</b> Began to incorporate LEAN changes in one clinic to reduce client service time and increase process efficiencies. Expanded drop-in clinics in schools. Nurses use database to monitor immunization status of children behind with immunizations. Expanded Saturday service provision. Co-locate services with Good Food market/vouchers. Community Program Builder working alongside nurse to immunize in homes for clients who would benefit. Contract service with Multilingual Community Interpreter Services (MCIS) which provides real-time verbal translation.</p>	<p>Increase in coverage from 50.4% in 2007 to 73.7% in 2013. Increases seen in <b>both</b> the most deprived and least deprived quintiles while coverage increases overall. The equity gap is closing.</p>

# Targeted inventions (leveling Up)

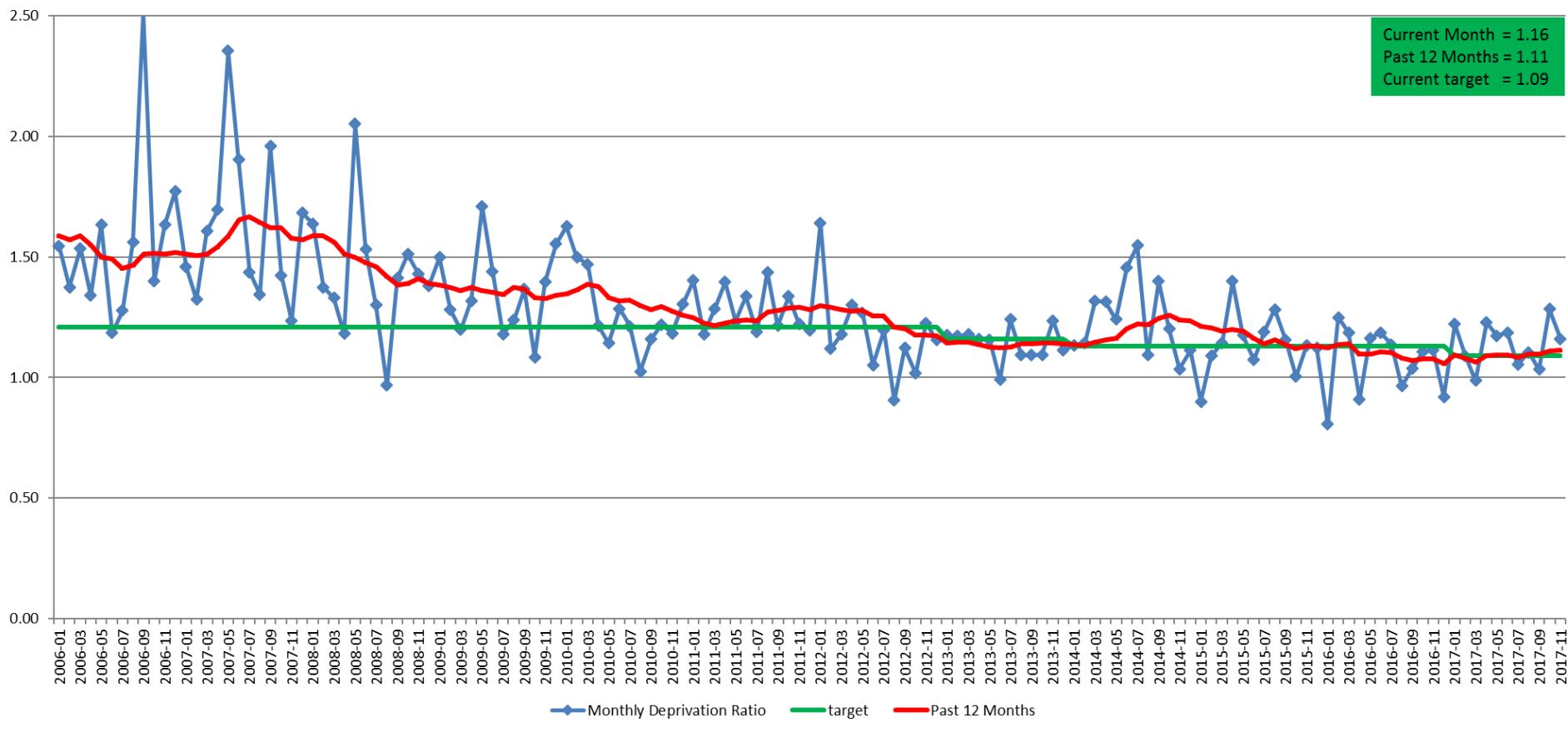
- Enhanced reminder system in 20 neighborhoods with lowest coverage (incl. personal telephone call or home visit by a Community Program Builder to discuss barriers when children are behind)
- Free bus and taxi rides are offered if transportation is an issue
- In-home immunization offered when all other strategies have been exhausted
- Drop-in satellite clinics offered weekly in targeted neighborhoods
- Fruit and vegetable market operated by community partner at satellite clinics (\$3 coupon provided to clients)



MMR Coverage at age 2 years -- Control Chart



## Measles Deprivation Index Ratio at Age 2 years (DA1/DA5) -- Saskatoon Health Region -- 2006 to 2017 (YTD)



Current Month = 1.16  
 Past 12 Months = 1.11  
 Current target = 1.09

Monthly Deprivation Ratio    target    Past 12 Months

# April 22 - 29 is National Immunization Awareness Week. Let's celebrate how far we've come!

Between 2007 & 2015, we saw an absolute average **increase in coverage rates**

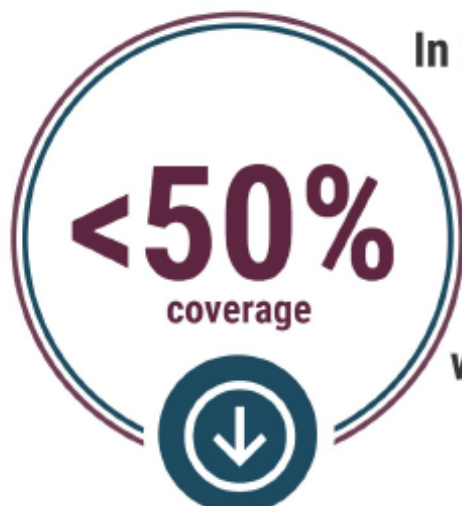


of **21%** in the 14 **least advantaged** neighbourhoods in SHR.

One neighbourhood, which was the **least advantaged** in both 2007 and 2015

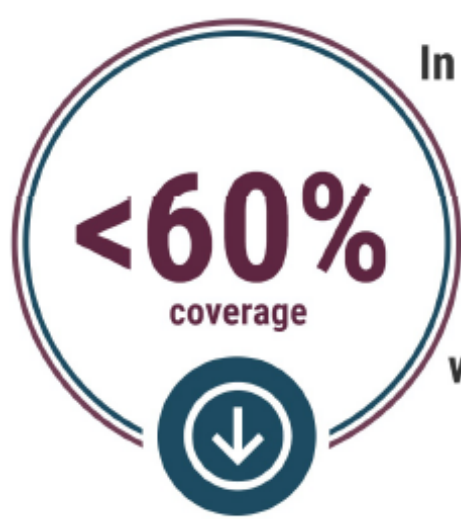


In 2015, the **disparity ratio** was the **lowest** reported in **10 years**



In 2007 there were **7** neighbourhoods with coverage rates <50%

In 2015 there was **1**



In 2007 there were **14** neighbourhoods with coverage rates <60%

In 2015 there were **4**

# Summary

- Immunization coverage inequality is a global public health concern
- High income countries have pockets of low immunization coverage as great or greater than many low and middle income countries
- Pockets of low immunization coverage pose a risk to the whole population as they represent gaps in herd immunity and serve as footholds for re-emerging pathogens
- Targeted monitoring and reporting combined with a proportionate universalism approach to service delivery can improve and sustain equity quickly with small investments
- Goals and targets are important incentives for action