

# Advancing Health Equity in Health Care

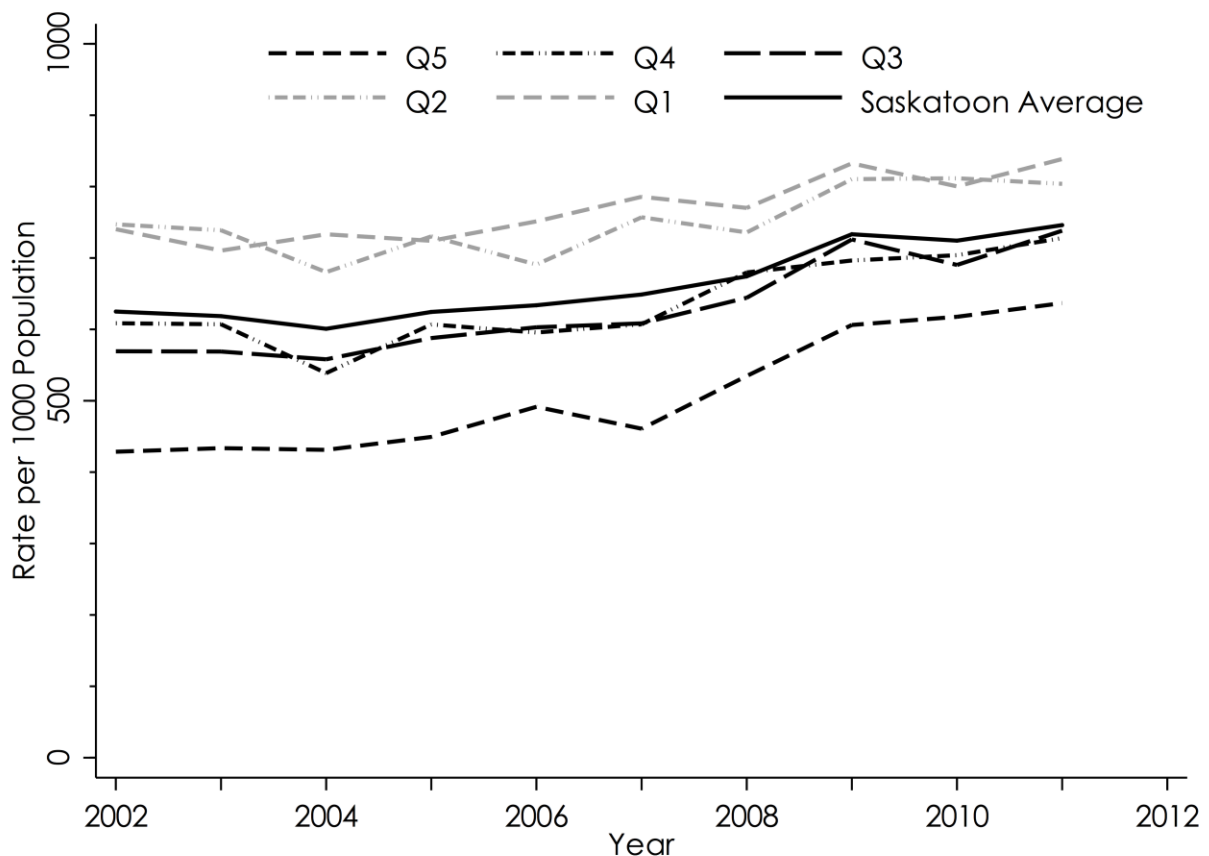
## Immunization

### Highlights

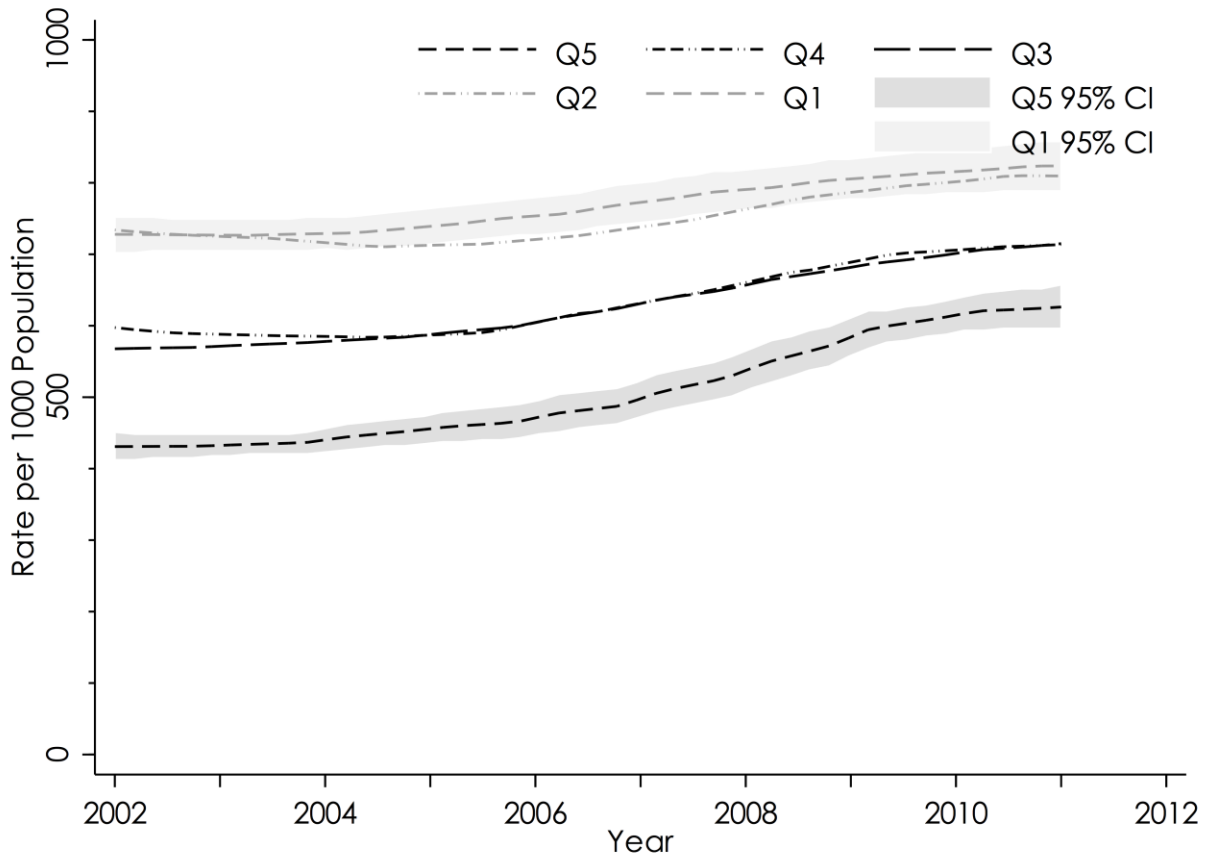
- Child immunization rates are increasing over time for the general population.
- The inequality gap is moderate but showing signs of decreasing over time for the general population.
- From 2002 to 2011, 15% of child immunizations occurred for people living in the highest areas of deprivation, compared to 23% in the areas of lowest deprivation.
- Click [here](#) to learn more about data sources and methods.

Between January 1, 2002 and December 31, 2011 there were 16,178 children immunized among a population of 28,893 children aged 2 years. Among boys and girls 8,263 and 7,915 were immunized, respectively. In the city as a whole immunization rates increased by 19% from 624.9 to 745.9 immunizations per 1000 children between 2002 and 2011 (Figure 1 and Figure 2). Figure 3 shows the disparity rate ratio and disparity rate difference for immunization rates. The disparity rate ratio increased by 31% from 0.58 in 2002 to 0.76 in 2011. The disparity rate difference increased by 35% from -312.1 in 2002 to -202.9 in 2011.

**Figure 1: Crude Immunization Rate per 1000 Children by Quintile of Deprivation, Saskatoon, 2002 to 2011.**

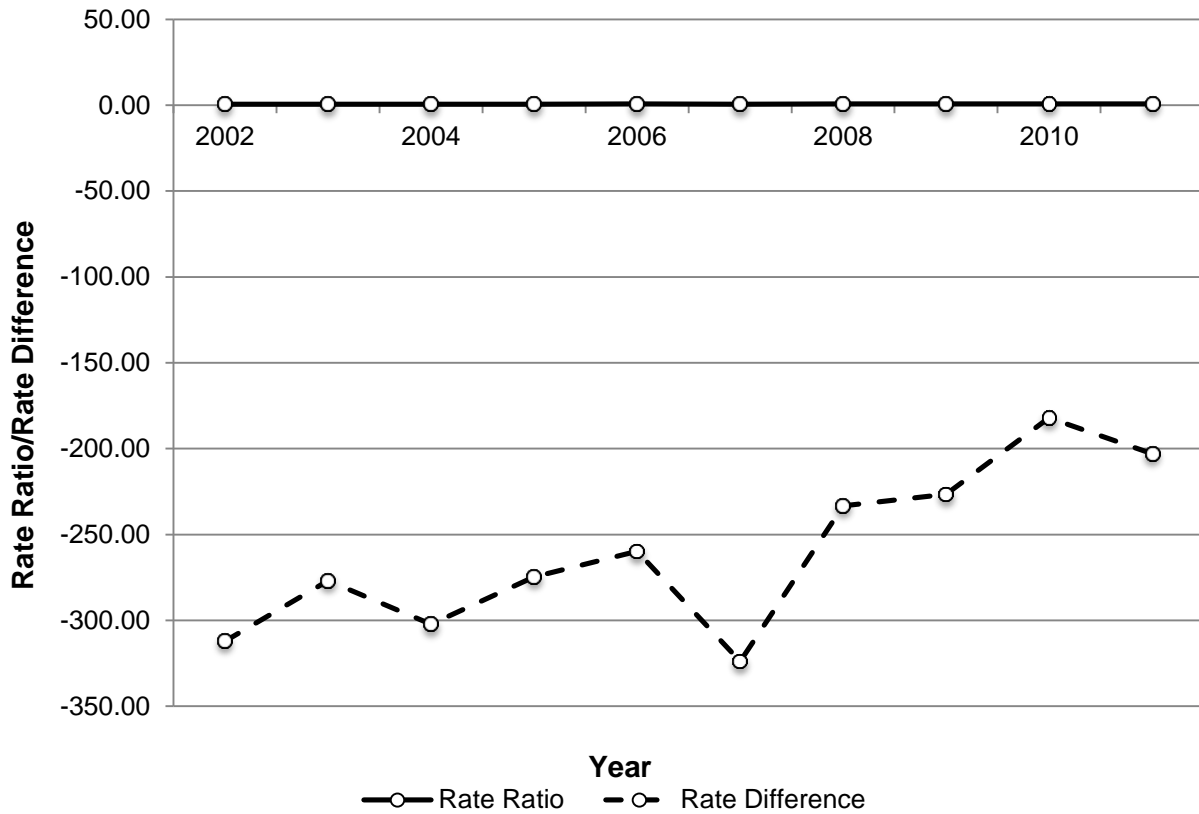


**Figure 2: Adjusted Immunization Rate per 1000 Children by Deprivation Area, Saskatoon, 2002 to 2011.**



Note: Model is a negative binomial regression and includes age, sex, year, quintile of deprivation and a year\*quintile of deprivation interaction term as dependent variables. The model is offset by the log of population size and robust standard errors were estimated.

**Figure 3: Age and Sex Standardized Immunization Rate Ratio and Rate Differences between the Highest and Lowest Quintiles of Deprivation, Saskatoon, 2002 to 2011.**



The Lorenz curve for all years combined shows that 15% of immunizations occur among children residing in areas of highest deprivation, representing 22% of the children in Saskatoon. In contrast, 23% of immunizations occur among children residing in areas of least deprivation, representing 25% of the children in Saskatoon.

**Figure 4: Age and Sex Adjusted Lorenz Curve for Immunization, Saskatoon, 2002 to 2011**

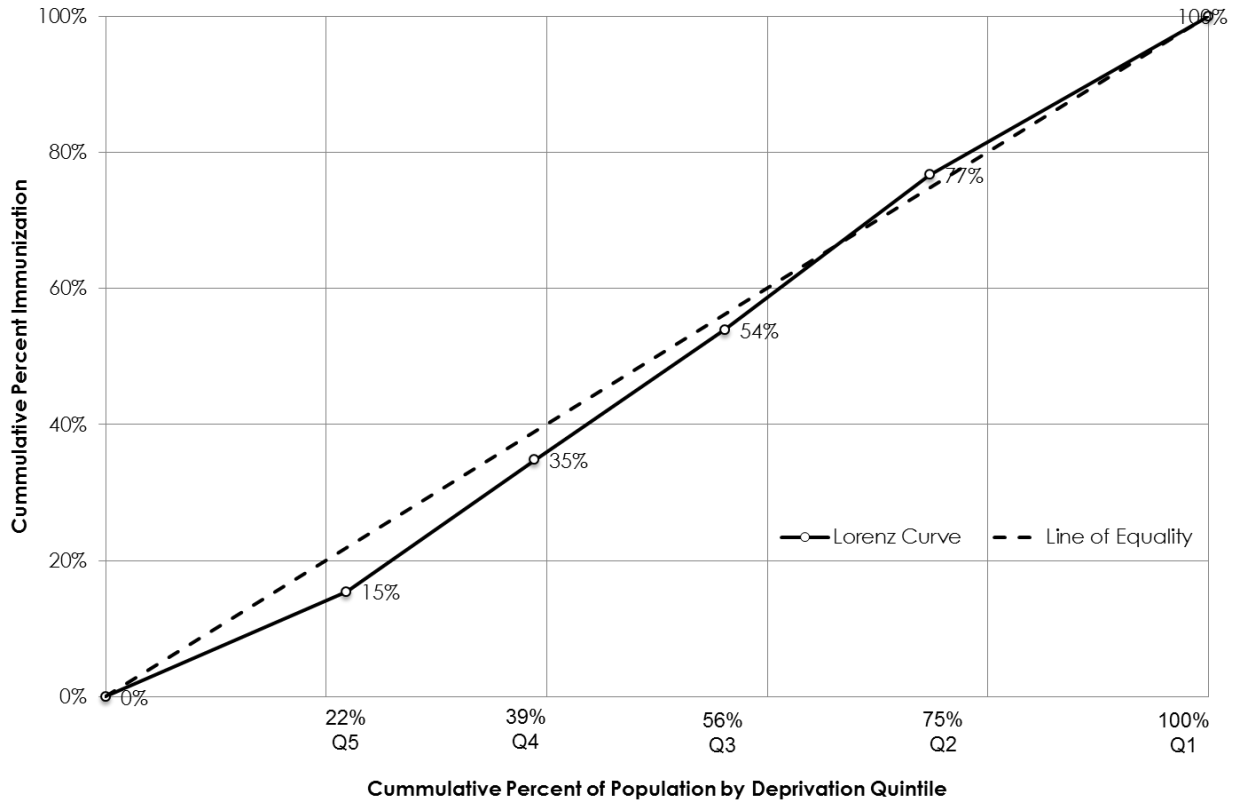
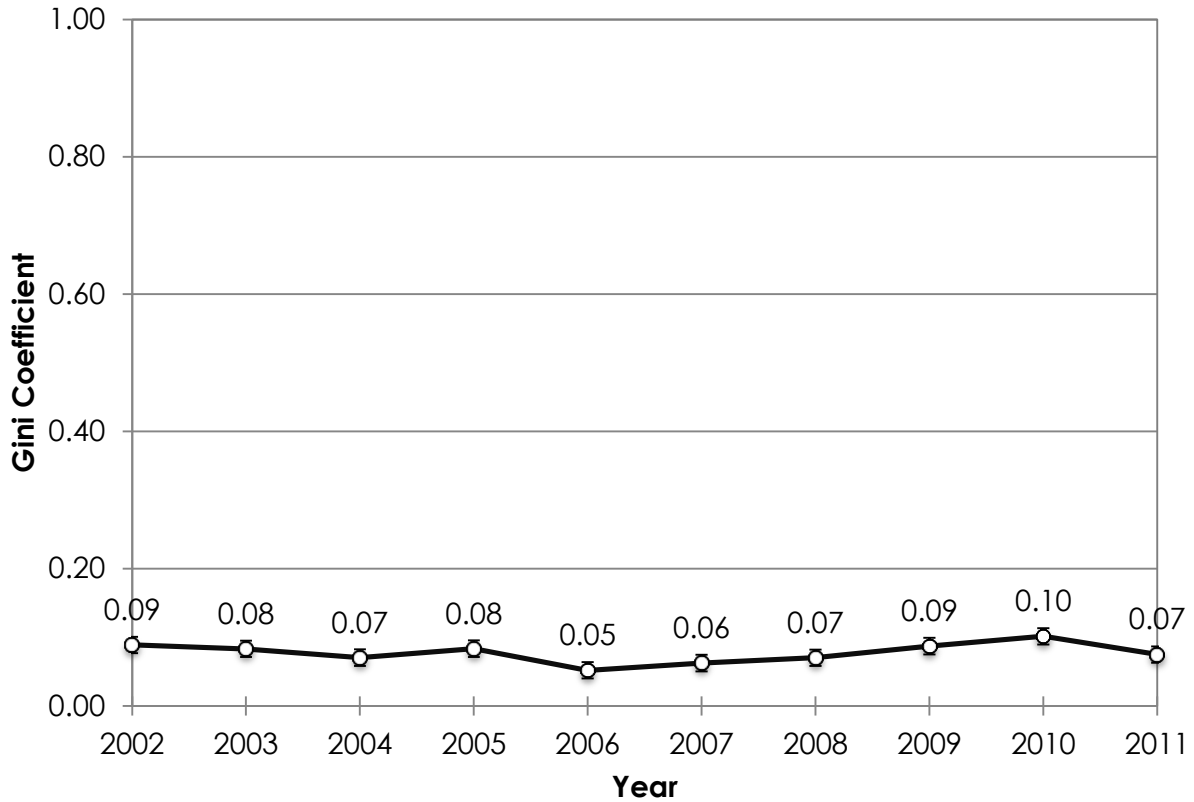


Figure 5 shows that the Gini coefficient for childhood immunizations was 0.09 (95% CI: 0.08 to 0.10) in 2002. The Gini coefficient decreased to 0.07 (95% CI: 0.07 to 0.09) in 2011. A Gini coefficient ranging from .05 to .10 represents a moderate to low degree of equality for childhood immunizations in Saskatoon.

**Figure 5: Age and Sex Adjusted Gini Coefficients for Immunizations, Saskatoon, 2002 to 2011.**



**Table 1: Immunization Rate Ratios for Sex, Age, Quintile of Deprivation, Saskatoon, 2002 and 2011.**

Immunization Rates	Robust			P>z	[95% Conf. Interval]	
	RR	Std. Err.	z			
<b>Sex</b>						
Male	1.00	-	-	-	-	-
Female	1.04	0.01	4.08	0.00	1.02	1.06
<b>Deprivation Quintiles</b>						
Q5	1.00	-	-	-	-	-
Q4	1.86	0.04	31.79	0.00	1.79	1.94
Q3	1.58	0.03	24.64	0.00	1.53	1.64
Q2	1.95	0.09	15.04	0.00	1.79	2.12
Q1	1.37	0.04	10.76	0.00	1.29	1.45
<b>Year</b>						
2002	1.00	-	-	-	-	-
2003	1.03	0.04	0.81	0.42	0.96	1.11
2004	1.15	0.04	4.40	0.00	1.08	1.22
2005	1.02	0.01	1.82	0.07	1.00	1.05
2006	1.19	0.02	10.86	0.00	1.15	1.23
2007	1.01	0.05	0.17	0.87	0.92	1.10
2008	1.15	0.11	1.51	0.13	0.96	1.39
2009	1.12	0.01	11.10	0.00	1.10	1.15
2010	1.15	0.03	5.35	0.00	1.10	1.22
2011	1.12	0.02	7.80	0.00	1.09	1.16

Note: Model is a negative binomial regression and includes age, sex, year, quintile of deprivation and a year\*quintile of deprivation interaction term as dependent variables. The model is offset by the log of population size and robust standard errors were estimated.