

Advancing Health Equity in Health Care

Hospital Discharges for Stroke

Highlights

- Hospital discharges for stroke are decreasing over time for the general population.
- The inequality gap is moderate but narrowing over time for the general population.
- The Disparity Rate Ratio is significantly increasing over time.
- The gap between those living in areas of highest and lowest deprivation is widening.
- From 1995 to 2011, 34% of stroke hospital discharges occurred for people living in the highest areas of deprivation, compared to 13% in the areas of lowest deprivation.
- Click [here](#) to learn more about data sources and methods.

Between January 1, 1995 and December 31, 2011 there were 5,498 stroke hospital discharges for Saskatoon residents. There were 2,720 hospital discharges among men and 2,778 hospital discharges among women. In the city as a whole stroke hospital discharges decreased by 50% from 2.4 to 1.2 cases per 1000 people between 1995 and 2011 (*Figure 1 and Figure 2*). *Figure 3* shows the disparity rate ratio and disparity rate difference for age and sex standardized stroke rates. The disparity rate ratio increased by 21% from 1.7 in 1995 to 2.0 in 2011. The disparity rate difference decreased by 39% from 1.2 in 1995 to 0.8 in 2011.

Figure 1: Crude Stroke Hospital Discharge Rate per 1000 Population by Quintile of Deprivation, Saskatoon, 1995 to 2011.

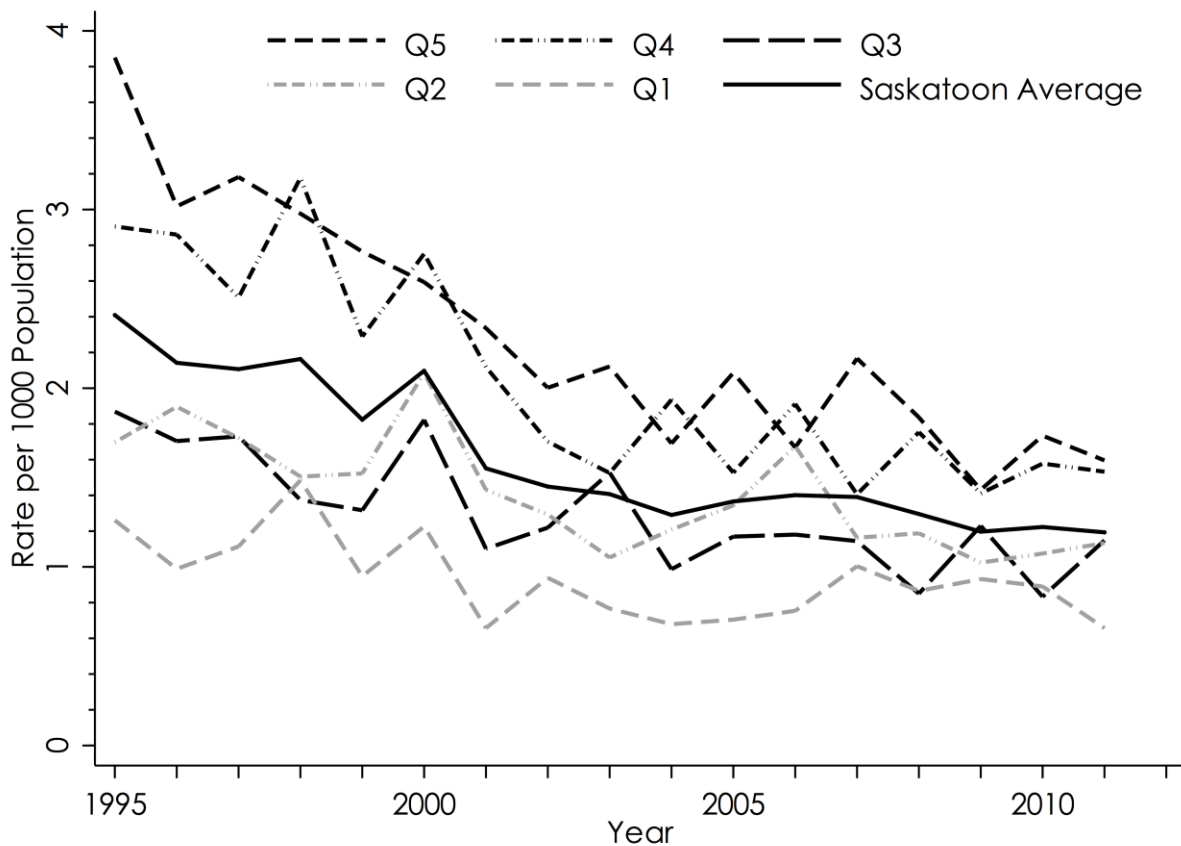
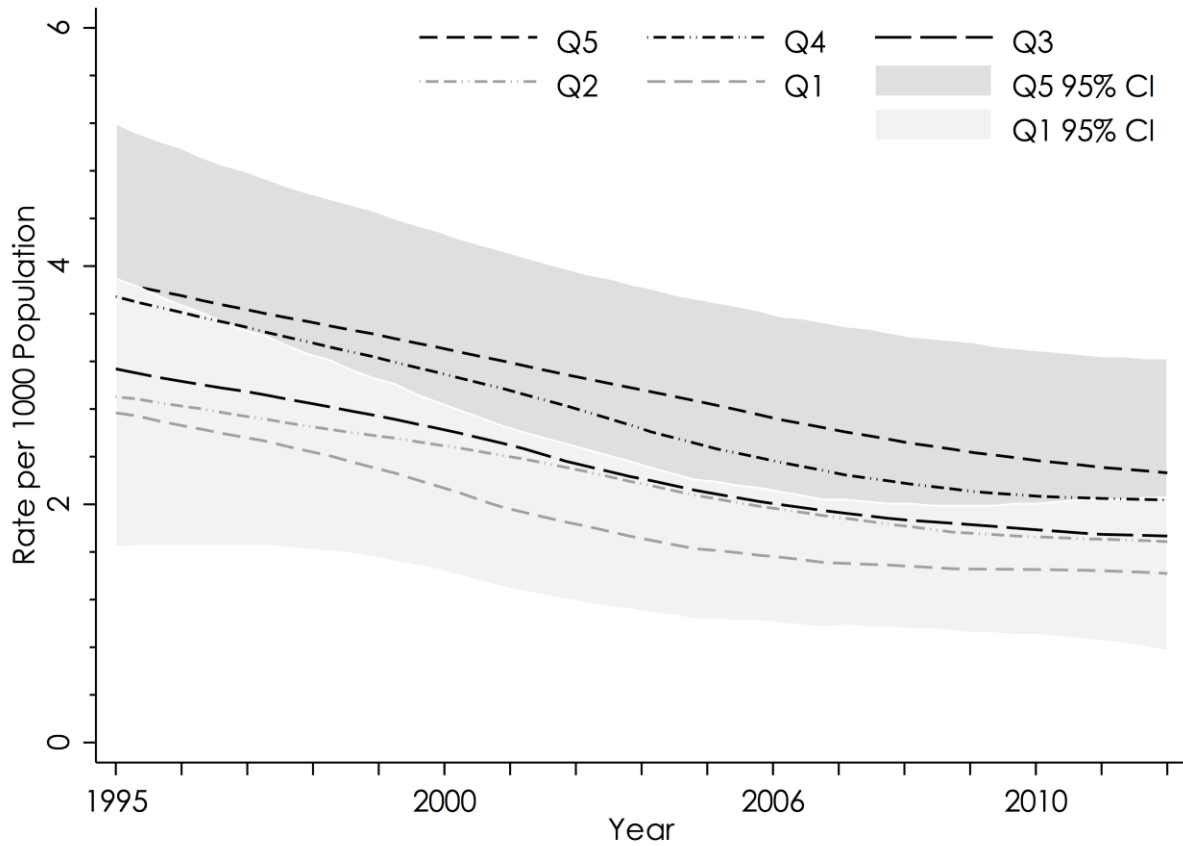
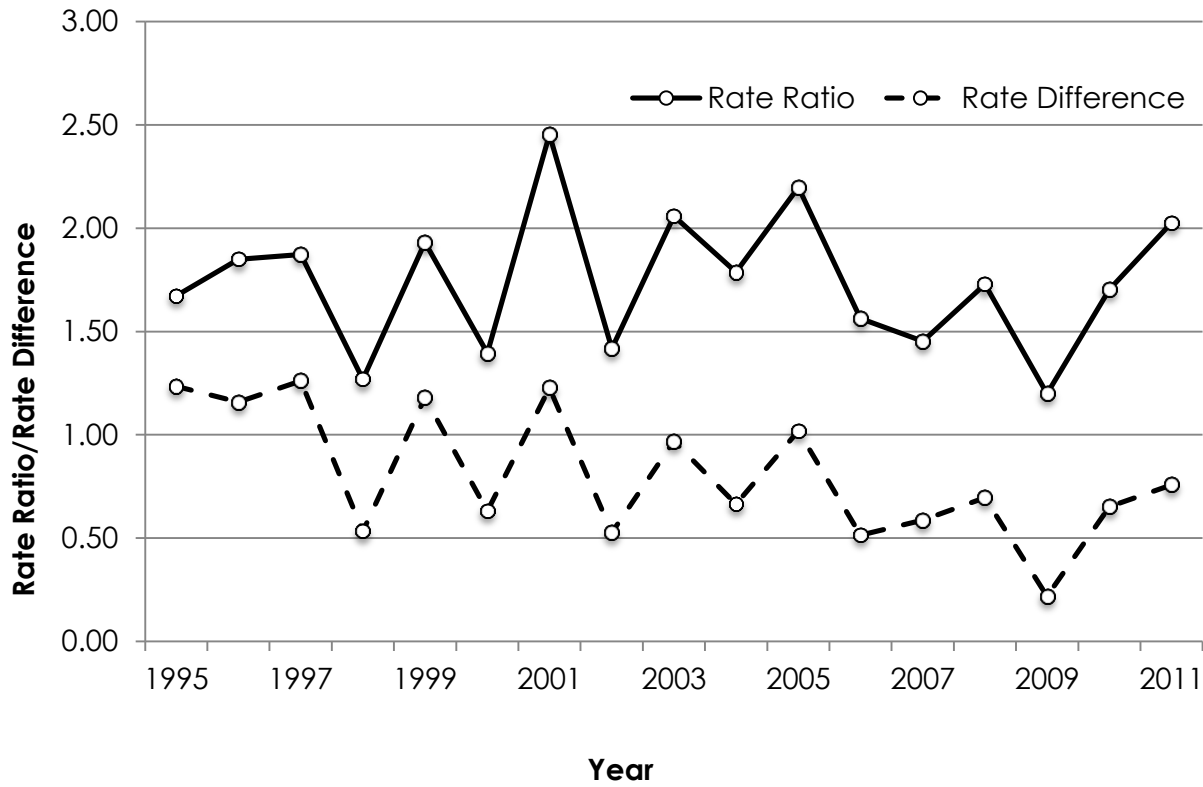


Figure 2: Adjusted Stroke Hospital Discharge Rate per 1000 Population by Deprivation Area, Saskatoon, 1995 to 2011.



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 Stroke Hospital Discharge Rate Ratio and Rate Differences between the Highest and Lowest Quintiles of Deprivation, Saskatoon, 1995 to 2011.



The Lorenz curve for all years combined shows that 34% of the stroke hospital discharges occurs among residents in areas of highest deprivation, representing 24% of the total population of Saskatoon. In contrast, 13% of stroke hospital discharges occurs for those residing in areas of least deprivation, representing 23% of the population.

Figure 4: Age and Sex Adjusted Lorenz Curve for Stroke Hospital Discharges, Saskatoon, 1995 to 2011.

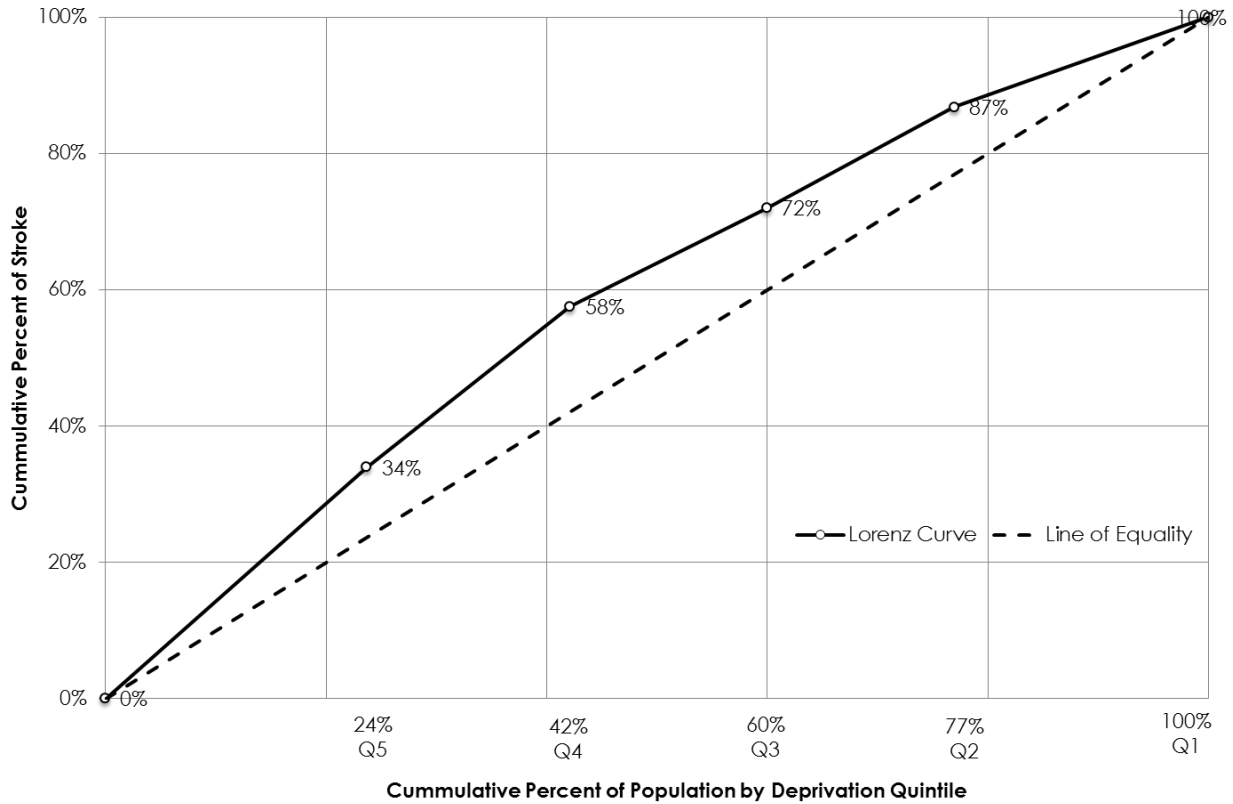


Figure 5 shows that the Gini coefficient for stroke hospital discharges was 0.23 (95% CI: 0.20 to 0.25) in 1995. The Gini coefficient decreased significantly to 0.16 (95% CI: 0.19 to 0.12) between 1995 and 2011. The Gini coefficient ranging from 0.23 to 0.10 represents a moderate degree of inequality for stroke hospital discharges in Saskatoon.

Figure 5: Age and Sex Adjusted Gini Coefficients for Stroke Hospital Discharges, Saskatoon, 1995 to 2011.

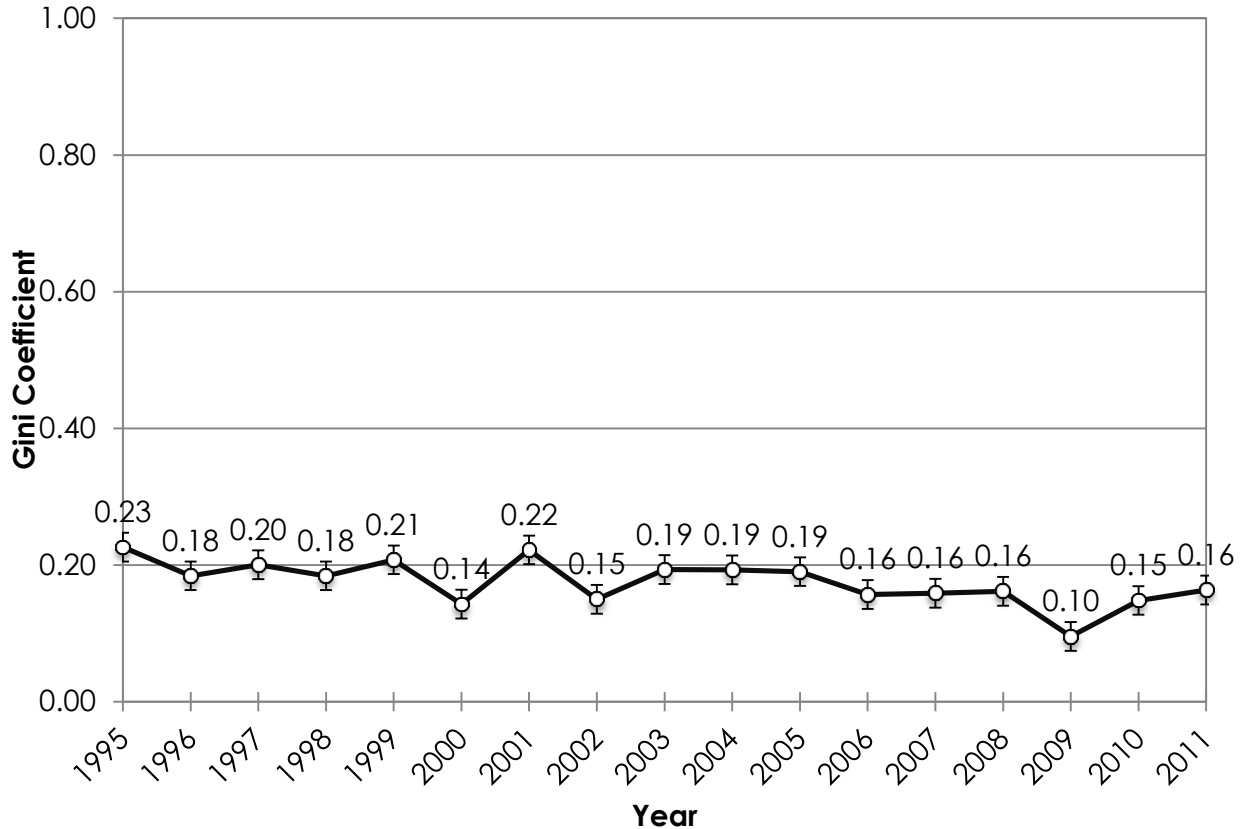


Table 1: Stroke Hospital Discharge Rate Ratios for Sex, Age, Quintile of Deprivation, Saskatoon, 1995 and 2011.

Stroke	Robust					
Rates	RR	Std. Err.	z	P>z	[95% Conf. Interval]	
Sex						
Male	1.00	-	-	-	-	-
Female	0.53	0.02	-21.51	0.00	0.50	0.57
Age Category						
0 to 14	1.00	-	-	-	-	-
15 to 29	2.09	0.67	2.29	0.02	1.11	3.92
30 to 44	7.76	2.09	7.62	0.00	4.58	13.14
45 to 64	54.45	13.97	15.59	0.00	32.94	90.02
65+	791.34	199.52	26.47	0.00	482.77	1297.12
Deprivation Quintiles						
Q5	1.00	-	-	-	-	-
Q4	1.25	0.21	1.31	0.19	0.90	1.74
Q3	1.47	0.16	3.57	0.00	1.19	1.82
Q2	1.22	0.13	1.87	0.06	0.99	1.51
Q1	1.65	0.44	1.89	0.06	0.98	2.79
Year						
1995	1.00	-	-	-	-	-
1996	0.82	0.13	-1.27	0.20	0.60	1.11
1997	0.84	0.16	-0.93	0.35	0.59	1.21
1998	0.79	0.10	-1.92	0.06	0.62	1.00
1999	0.70	0.11	-2.34	0.02	0.52	0.94
2000	0.68	0.09	-2.85	0.00	0.53	0.89
2001	0.61	0.09	-3.19	0.00	0.45	0.83
2002	0.53	0.08	-4.02	0.00	0.38	0.72
2003	0.55	0.09	-3.72	0.00	0.41	0.76
2004	0.42	0.06	-6.43	0.00	0.32	0.55
2005	0.51	0.07	-4.78	0.00	0.39	0.68
2006	0.39	0.04	-8.50	0.00	0.32	0.49
2007	0.52	0.07	-4.75	0.00	0.40	0.68
2008	0.45	0.08	-4.73	0.00	0.33	0.63
2009	0.32	0.05	-6.89	0.00	0.23	0.44
2010	0.39	0.07	-5.27	0.00	0.27	0.55
2011	0.39	0.07	-4.94	0.00	0.27	0.56

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.