

Advancing Health Equity in Health Care

Physician Billings for Heart Disease

Highlights

- Physician billings for heart disease are unchanging over time for the general population.
- The inequality gap is high and stable 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 1996 to 2009, 50% of physician billings for heart disease occurred for people living in the highest areas of deprivation, compared to 6% in the areas of lowest deprivation.
- Click [here](#) to learn more about data sources and methods.

Between January 1, 1996 and December 31, 2009 there were 16,112 heart disease physician billings for Saskatoon residents. There were 9,707 physician billings among men and 6,405 among women. In the city as a whole heart disease physician billings rates increased by 26% from 4.7 to 6.0 per 1000 people between 1996 and 2009 (*Figure 1 and Figure 2*). *Figure 3* shows the disparity rate ratio and disparity rate difference for age and sex standardized heart disease rates. The disparity rate ratio decrease by 45% from 5.0 in 1996 to 7.3 in 2009. The disparity rate difference increase by 62% from 6.9 in 1996 to 11.2 in 2009.

Figure 1: Crude Heart Disease Physician Billings Rate per 1000 Population by Quintile of Deprivation, Saskatoon, 1996 to 2009.

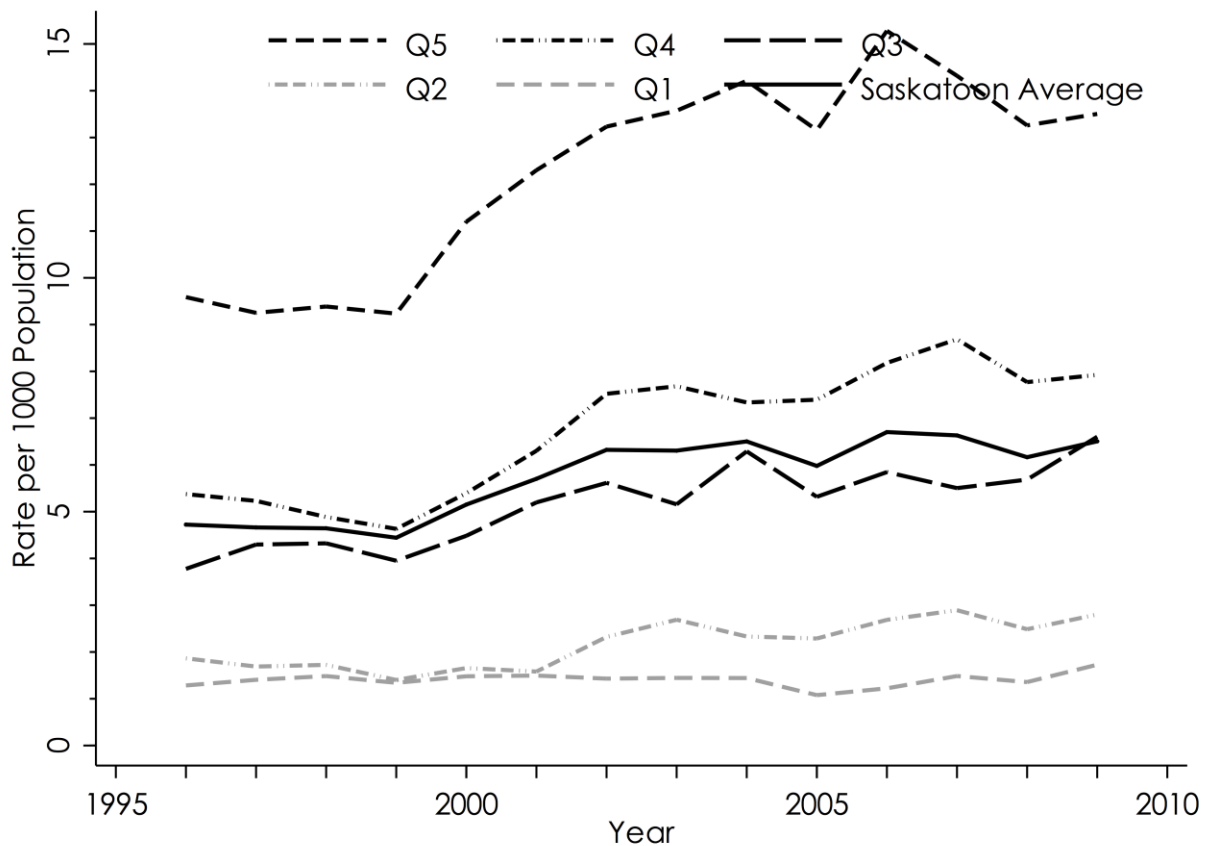
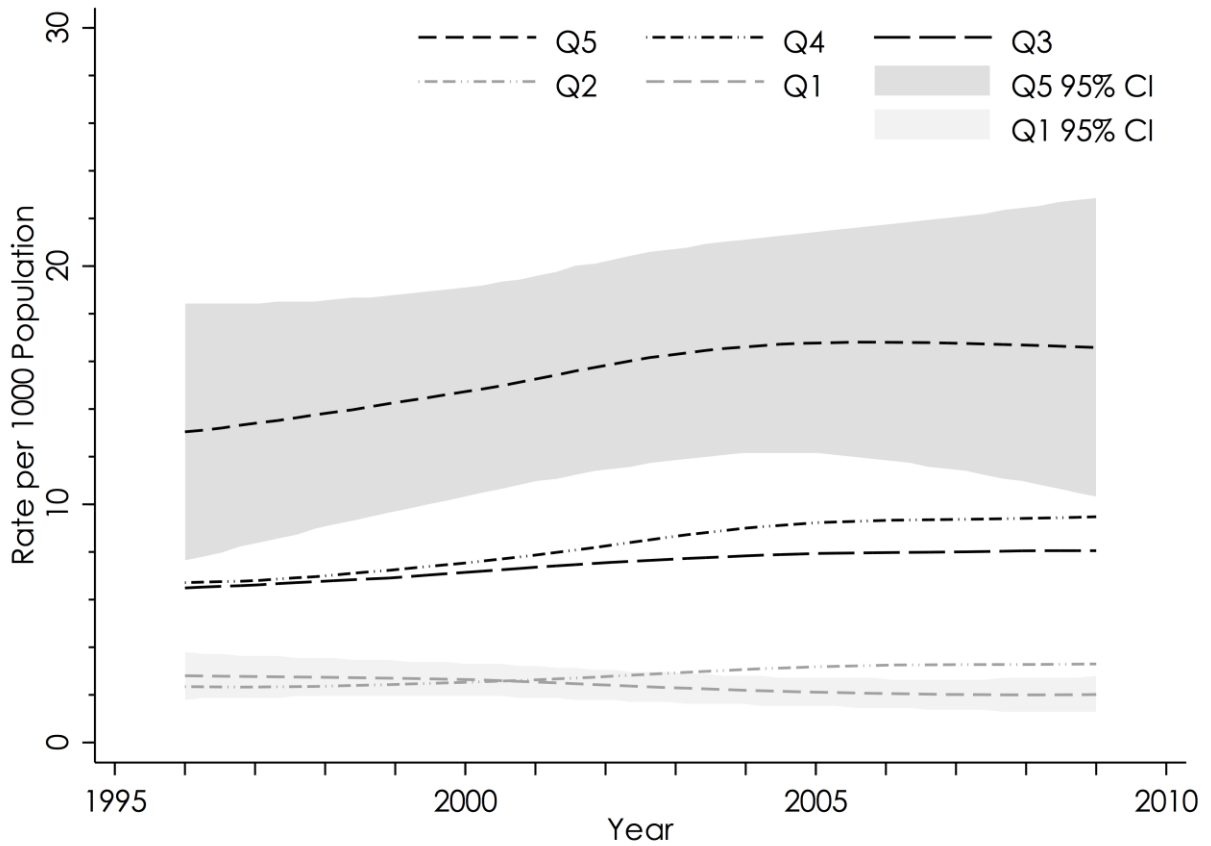
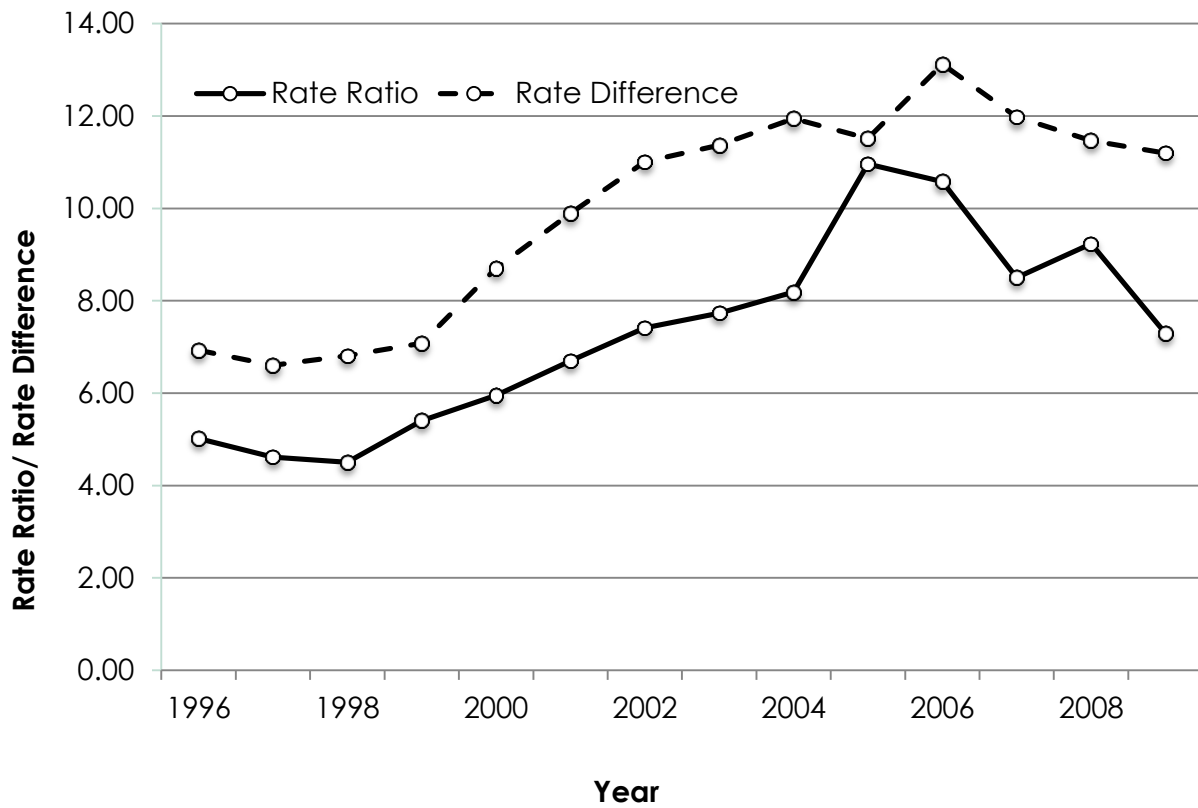


Figure 2: Adjusted Heart Disease Physician Billing Rate per 1000 Population by Deprivation Area, Saskatoon, 1996 to 2009.



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 Heart Disease Physician Billings Rate Ratio and Rate Differences between the Highest and Lowest Quintiles of Deprivation, Saskatoon, 1996 to 2009.



The Lorenz curve for all years combined shows that 50% of heart disease physician billings occurs among residents in areas of highest deprivation, representing 24% of the total population of Saskatoon (Figure 4). In contrast, 6% of heart disease physician billings occurs among those residing in areas of least deprivation, representing 23% of the population.

Figure 4: Age and Sex Adjusted Lorenz Curve for Heart Disease Physician Billings, Saskatoon, 1996 to 2009.

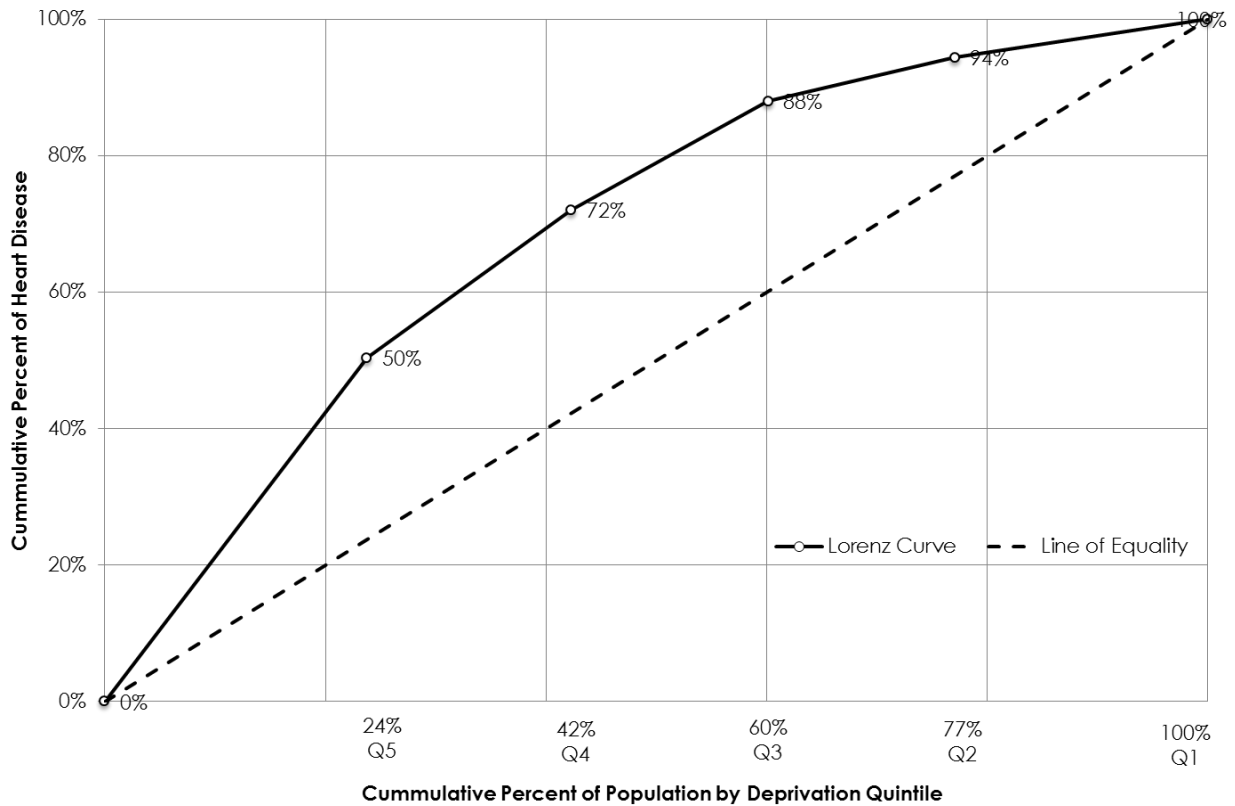


Figure 5 shows that the Gini coefficient for heart disease physician billings was 0.36 (95% CI: 0.34 to 0.39) with small fluctuations and no over all change from 1996 to 2009. A Gini coefficient ranging from 0.43 to 0.35 represents a high degree of inequality for heart disease physician billings in Saskatoon.

Figure 5: Age and Sex Adjusted Gini Coefficients for Heart Disease Physician Billings, Saskatoon, 1996 to 2009.

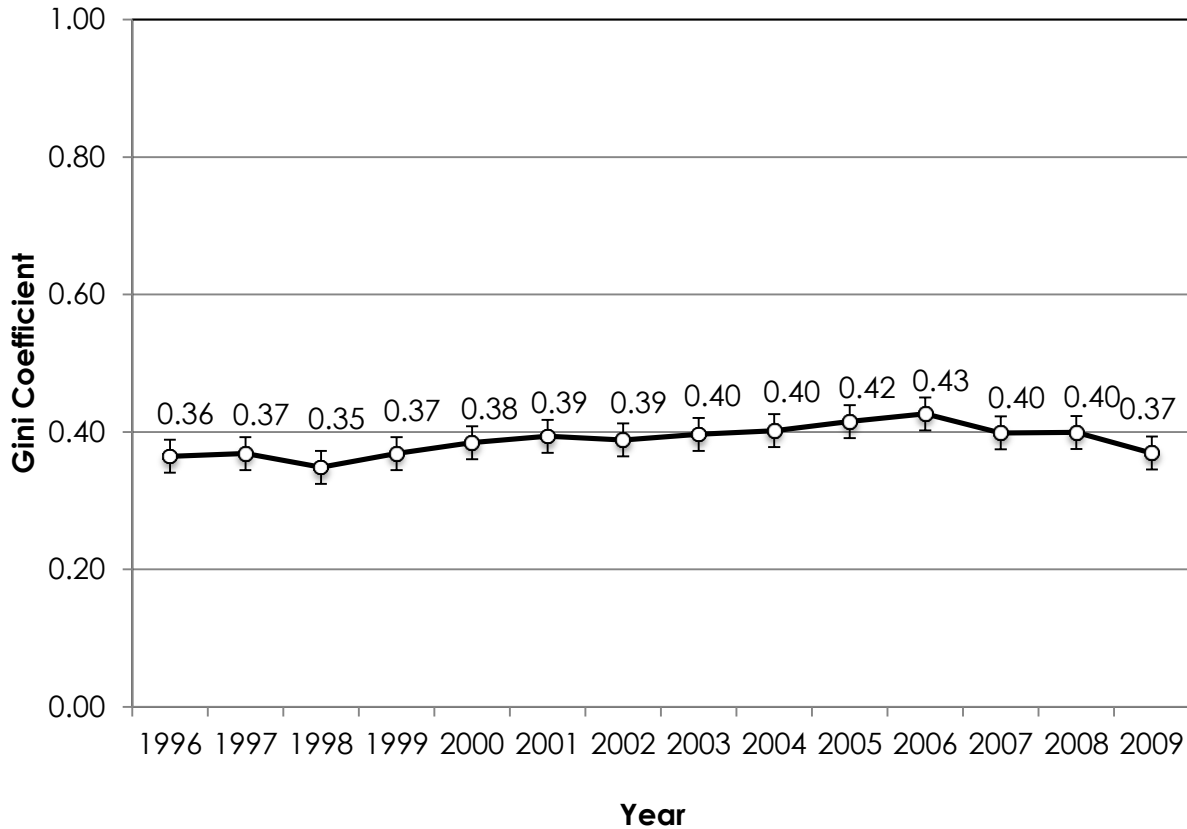


Table 1: Heart Disease Physician Billings Rate Ratios for Sex, Age, Quintile of Deprivation, Saskatoon, 1996 and 2009.

Heart Disease Rates	RR	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
Sex						
Male	1.00	-	-	-	-	-
Female	0.36	0.01	-34.20	0.00	0.34	0.38
Age Category						
0 to 14	1.00	-	-	-	-	-
15 to 29	4.63	0.89	7.99	0.00	3.18	6.75
30 to 44	25.03	4.56	9.78	0.00	17.51	35.78
45 to 64	174.34	31.12	7.46	0.00	122.88	247.36
65+	667.23	118.04	5.33	0.00	471.73	943.76
Deprivation Quintiles						
Q5	1.00	(base)	0.00	0.00	0.00	0.00
Q4	0.73	0.10	-2.35	0.02	0.56	0.95
Q3	1.00	-	-	-	-	-
Q2	0.34	0.06	-6.01	0.00	0.24	0.49
Q1	0.37	0.12	-3.04	0.00	0.20	0.71
Year						
1996	1.00	-	-	-	-	-
1997	0.95	0.11	-0.45	0.65	0.75	1.19
1998	0.97	0.11	-0.27	0.79	0.77	1.22
1999	0.92	0.08	-0.86	0.39	0.77	1.11
2000	1.13	0.11	1.28	0.20	0.94	1.36
2001	1.20	0.11	1.88	0.06	0.99	1.44
2002	1.26	0.12	2.42	0.02	1.04	1.52
2003	1.29	0.13	2.50	0.01	1.06	1.57
2004	1.31	0.13	2.68	0.01	1.07	1.59
2005	1.19	0.12	1.68	0.09	0.97	1.46
2006	1.32	0.13	2.75	0.01	1.08	1.62
2007	1.21	0.10	2.18	0.03	1.02	1.43
2008	1.10	0.12	0.90	0.37	0.89	1.36
2009	1.14	0.14	1.06	0.29	0.90	1.45

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.