

Advancing Health Equity in Health Care

Physician Billings for Diabetes

Highlights

- Physician billings for diabetes are increasing over time for the general population.
- The inequality gap is high and stable over time for the general population.
- From 1996 to 2009, 50% of physician billings for diabetes occurred for people living in the highest areas of deprivation, compared to 5% 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 24,172 diabetes physician billings for Saskatoon residents. There were 12,246 diabetes physician billings among men and 11,926 diabetes physician billings among women. In the city as a whole diabetes rates increased by 115% from 5.2 to 11.2 physician billings 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 diabetes rates. The disparity rate ratio increased by 20% from 8.3 in 1996 to 9.9 in 2009. The disparity rate difference increase by 165% from 8.6 in 1996 to 22.7 in 2009.

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

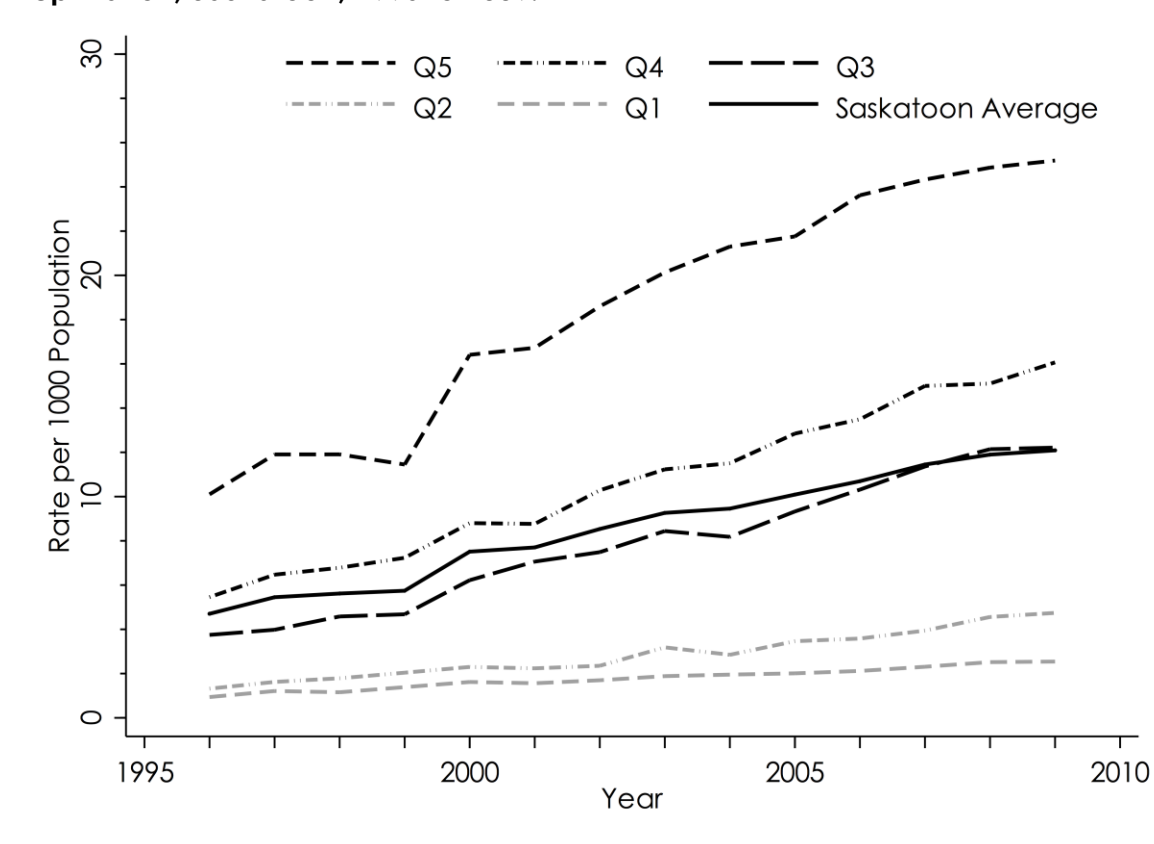
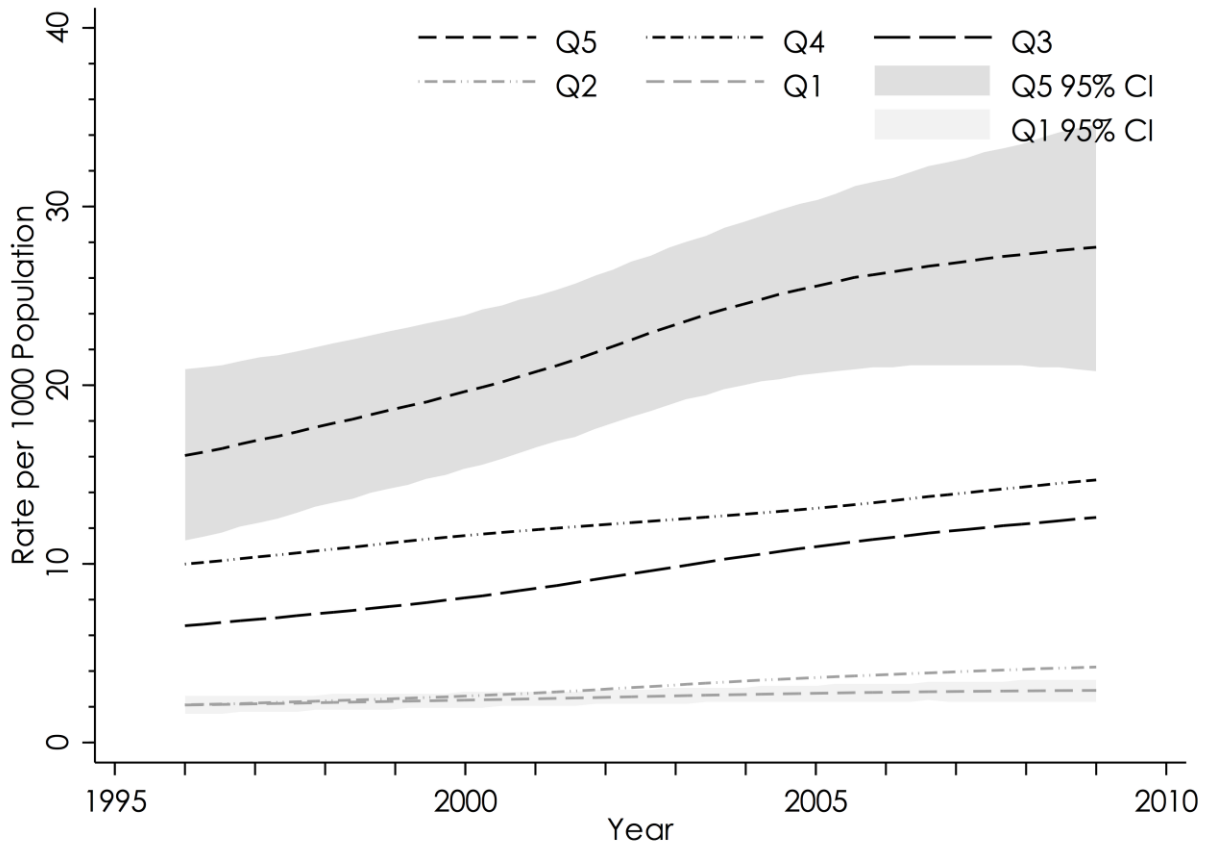
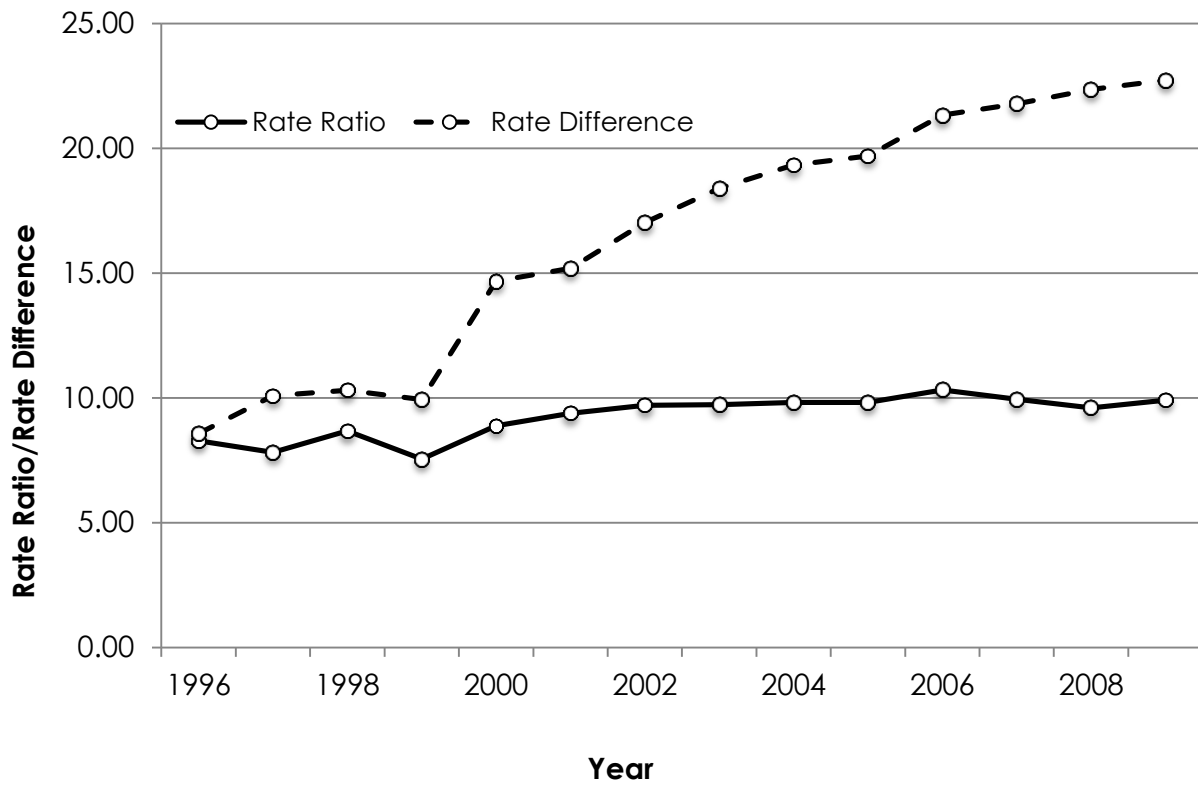


Figure 2: Adjusted Diabetes Physician Billing Rate per 1000 Population by Deprivation Area, Saskatoon, 1996 to 2009.



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 Diabetes 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 diabetes physician billings occurs among residents in areas of highest deprivation, representing 23% of the total population of Saskatoon (Figure 4). In contrast, 5% of diabetes physician billings occurs among those residing in areas of least deprivation, representing 24% of the population.

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

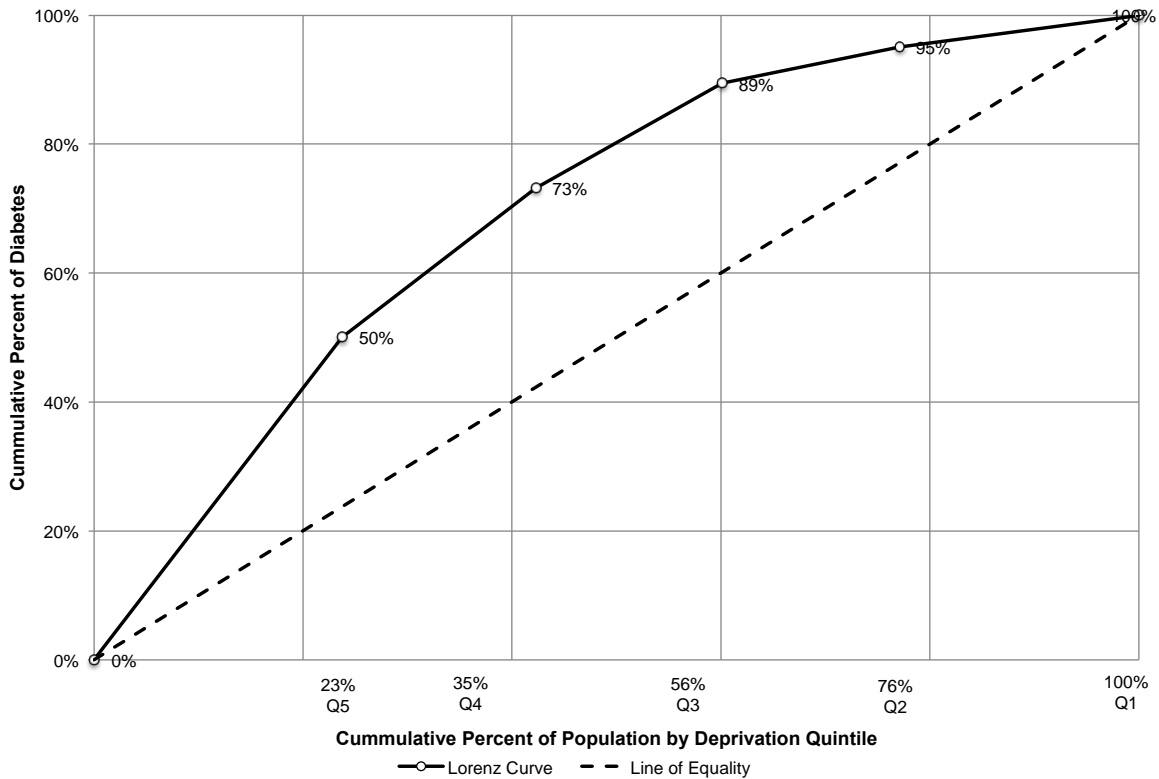


Figure 5 shows that the Gini coefficient for diabetes physician billings was 0.40 (95% CI: 0.37 to 0.42) in 1996. The Gini coefficient decreased to 0.39 (95% CI: 0.36 to 0.42) in 2009. A Gini coefficient ranging from 0.36 to 0.42 represents a high degree of inequality for diabetes physician billings in Saskatoon.

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

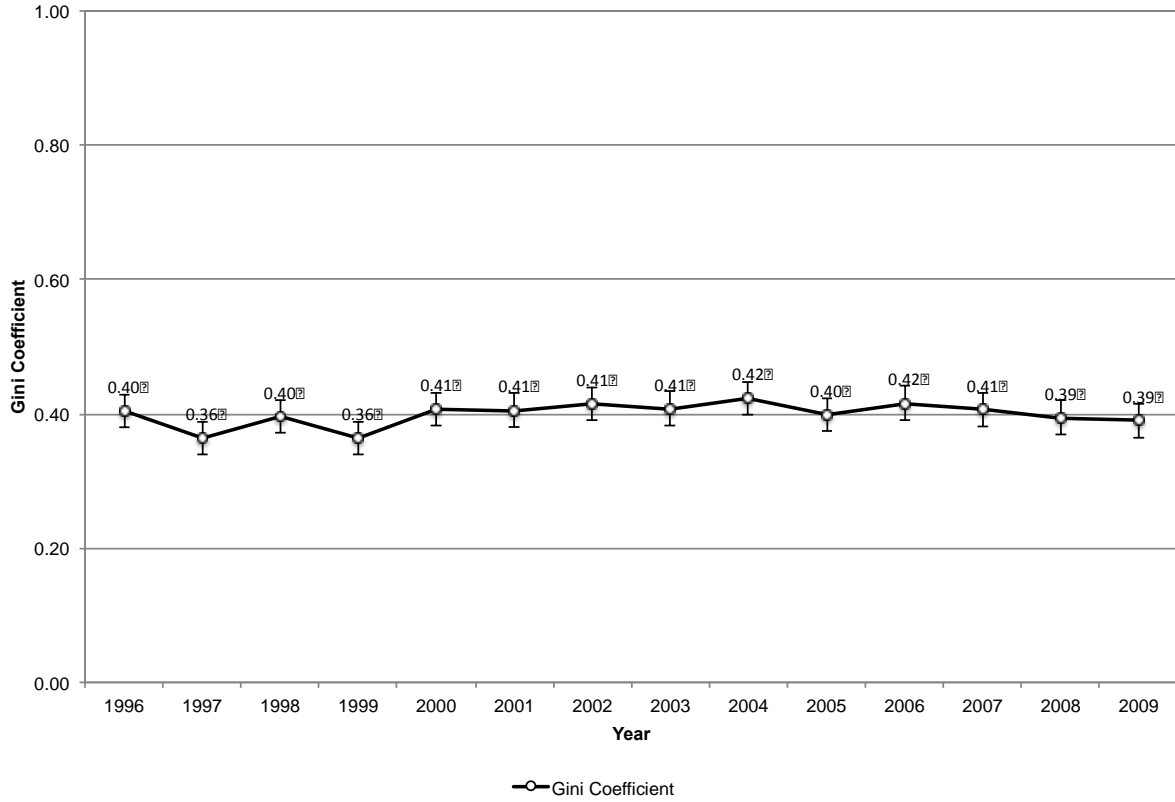


Table 1: Diabetes Physician Billings Rate Ratios for Sex, Age, Quintile of Deprivation, Saskatoon, 1996 and 2009.

Diabetes Rates	RR	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
Sex						
Male	1.00	-	-	-	-	-
Female	0.72	0.03	-8.46	0.00	0.66	0.77
Age Category						
0 to 14	1.00	-	-	-	-	-
15 to 29	2.24	0.20	9.16	0.00	1.88	2.66
30 to 44	8.29	0.68	25.66	0.00	7.05	9.74
45 to 64	30.74	2.32	45.49	0.00	26.52	35.63
65+	65.76	5.33	51.63	0.00	56.10	77.08
Deprivation Quintiles						
Q5	1.00	-	-	-	-	-
Q4	0.68	0.12	-2.17	0.03	0.48	0.96
Q3	0.63	0.09	-3.13	0.00	0.47	0.84
Q2	0.18	0.05	-6.08	0.00	0.11	0.32
Q1	0.20	0.07	-4.36	0.00	0.10	0.41
Year						
1996	1.00	-	-	-	-	-
1997	1.18	0.21	0.89	0.37	0.82	1.68
1998	1.14	0.19	0.79	0.43	0.82	1.59
1999	1.07	0.20	0.38	0.70	0.75	1.54
2000	1.57	0.30	2.37	0.02	1.08	2.28
2001	1.57	0.30	2.32	0.02	1.07	2.29
2002	1.71	0.32	2.93	0.00	1.19	2.46
2003	1.87	0.35	3.31	0.00	1.29	2.70
2004	1.89	0.34	3.52	0.00	1.33	2.70
2005	1.84	0.31	3.55	0.00	1.31	2.57
2006	2.01	0.35	3.97	0.00	1.42	2.83
2007	2.04	0.36	4.01	0.00	1.44	2.89
2008	2.05	0.39	3.78	0.00	1.41	2.97
2009	2.00	0.35	3.94	0.00	1.42	2.83

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.