

Advancing Health Equity in Health Care

Physician Billings for Cancer

Highlights

- Physician billings for cancer are unchanging over time for the general population.
- The inequality gap is high and showing signs of increasing over time for the general population.
- From 1995 to 2009, 40% of physician billings for cancer occurred for people living in the highest areas of deprivation, compared to 8% 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 24,307 cancer physician billings for Saskatoon residents. There were 10,025 cancer physician billings among men and 14,282 cancer physician billings among women. In the city as a whole cancer physician billings rates increased by 33% from 5.7 to 7.5 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 cancer physician billings. The disparity rate ratio increased by 42% from 3.9 in 1996 to 5.6 in 2009. The disparity rate difference increase by 81% from 6.1 in 1996 to 11.1 in 2009.

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

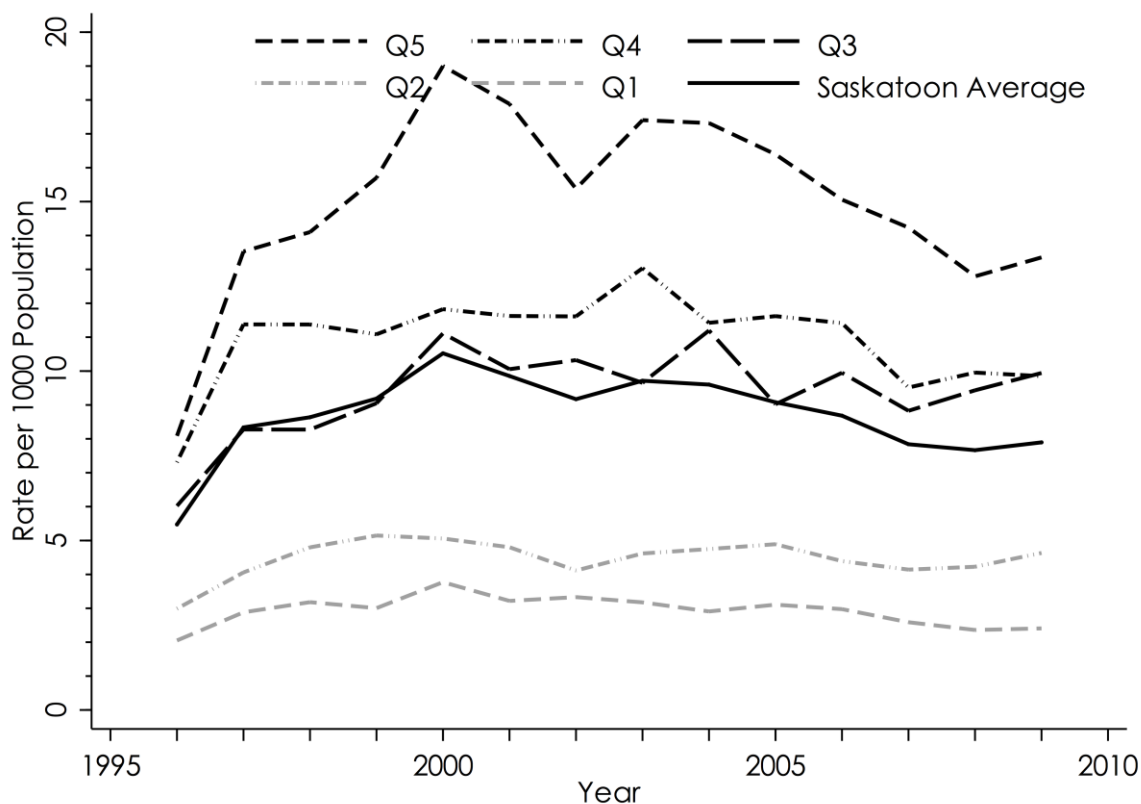
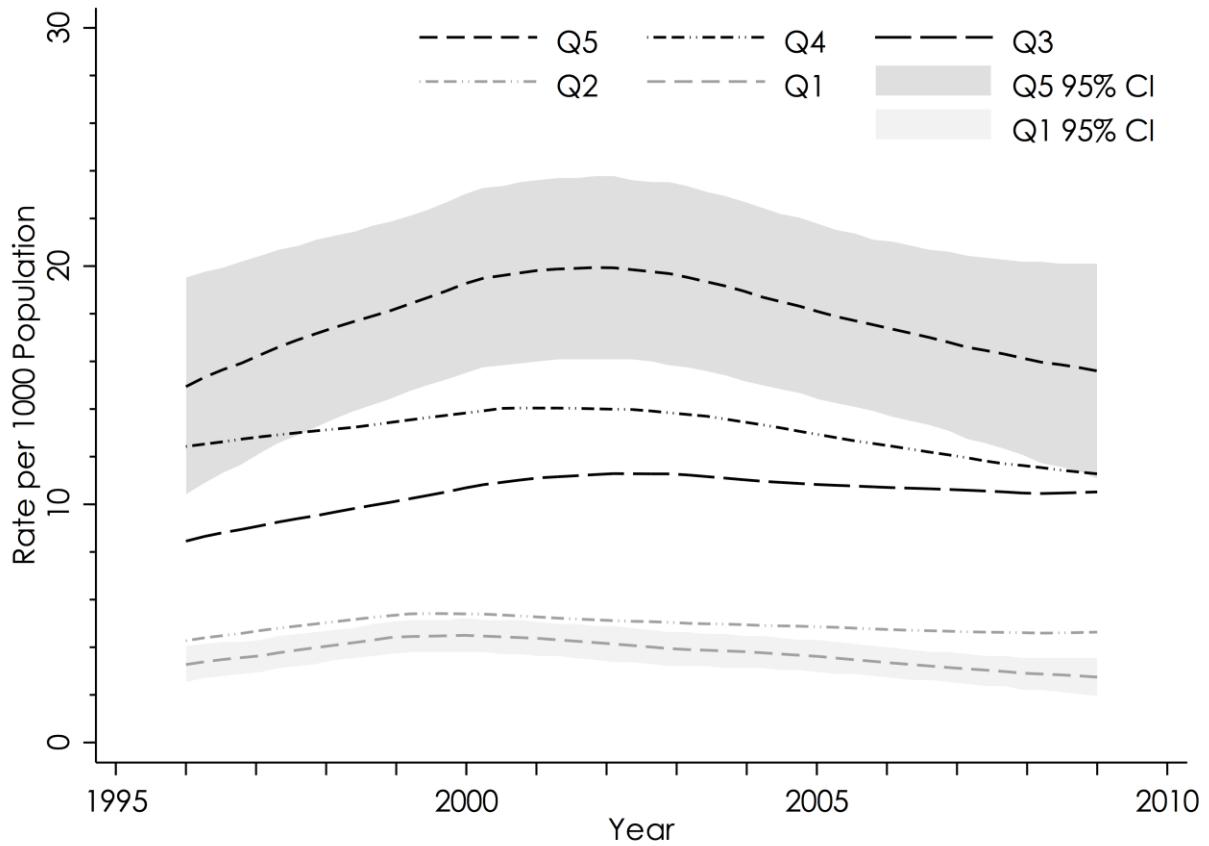
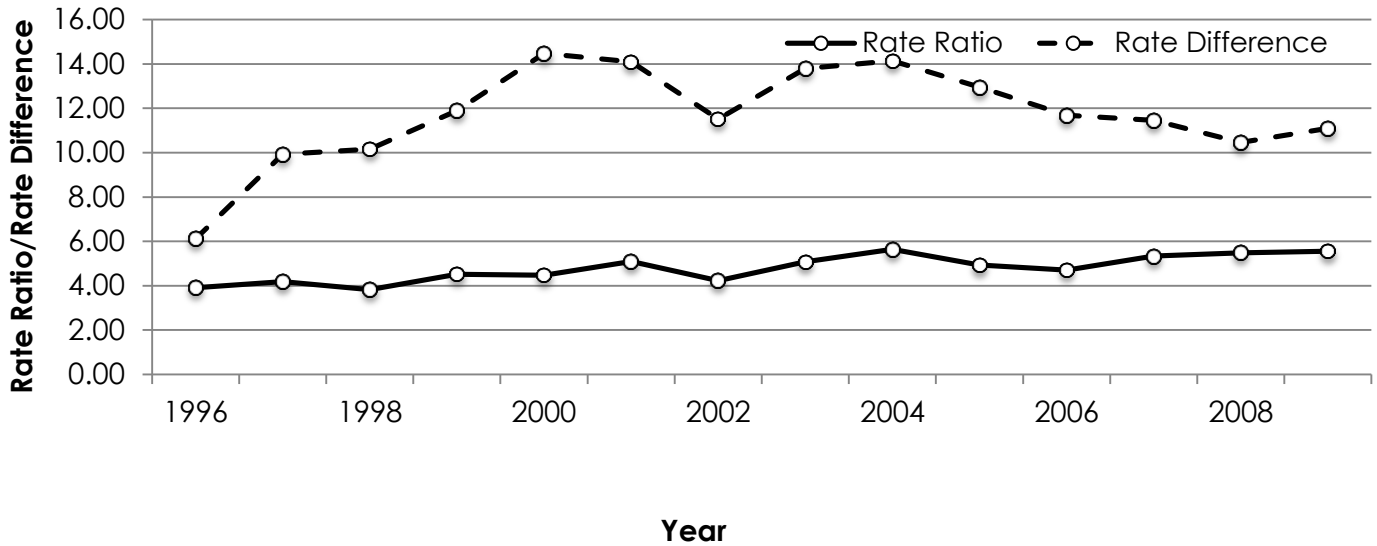


Figure 2: Adjusted Cancer Physician Billing Rate per 1000 Population by Deprivation Area, Saskatoon, 1996 to 2009.



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 Cancer 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 40% of cancer physician billings occurs among residents in areas of highest deprivation, representing 24% of the total population of Saskatoon (Figure 4). In contrast, 8% of cancer 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 Cancer Physician Billings, Saskatoon, 1996 to 2009.

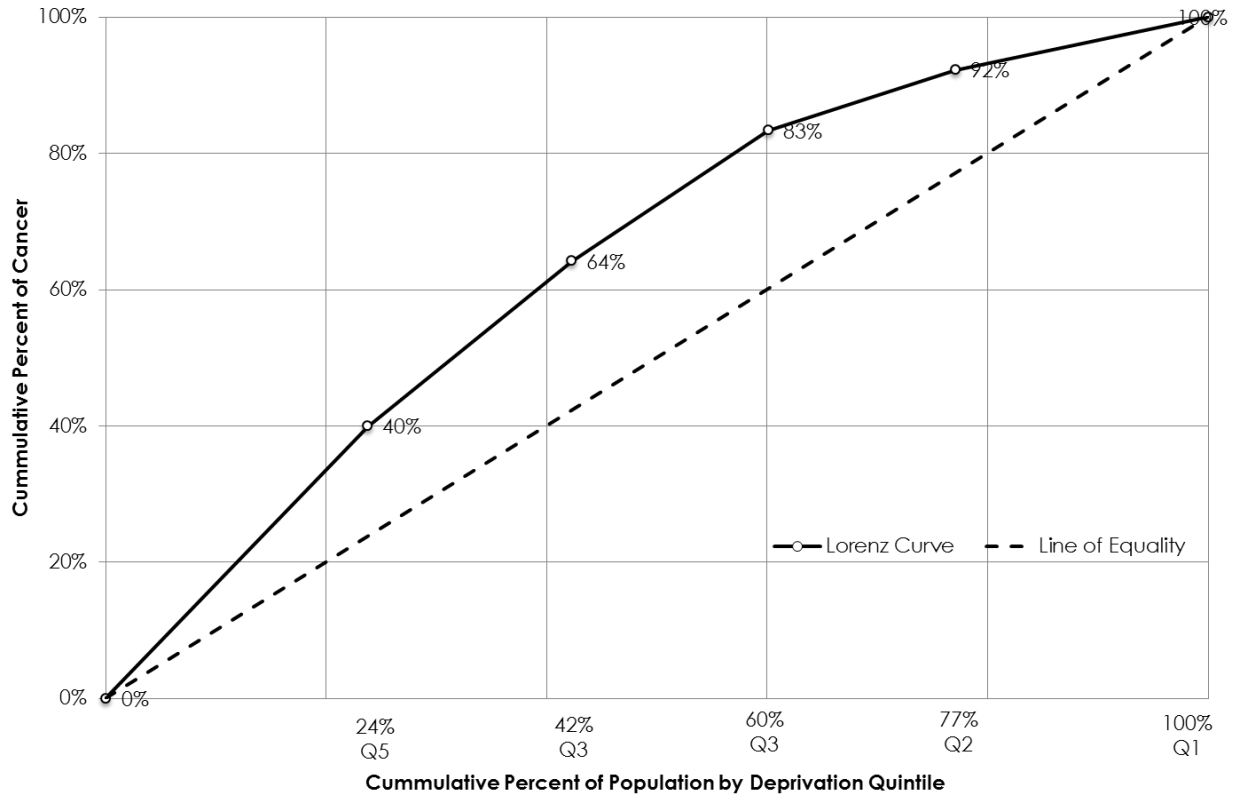


Figure 5 shows that the Gini coefficient for cancer physician billings was 0.25 (95% CI: 0.22 to 0.28) in 1995 with a non significant increase to 0.28 (95% CI: 0.25 to 0.32) in 2009. A Gini coefficient ranging from 0.31 to 0.25 represents a high degree of inequality for cancer physician billings in Saskatoon.

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

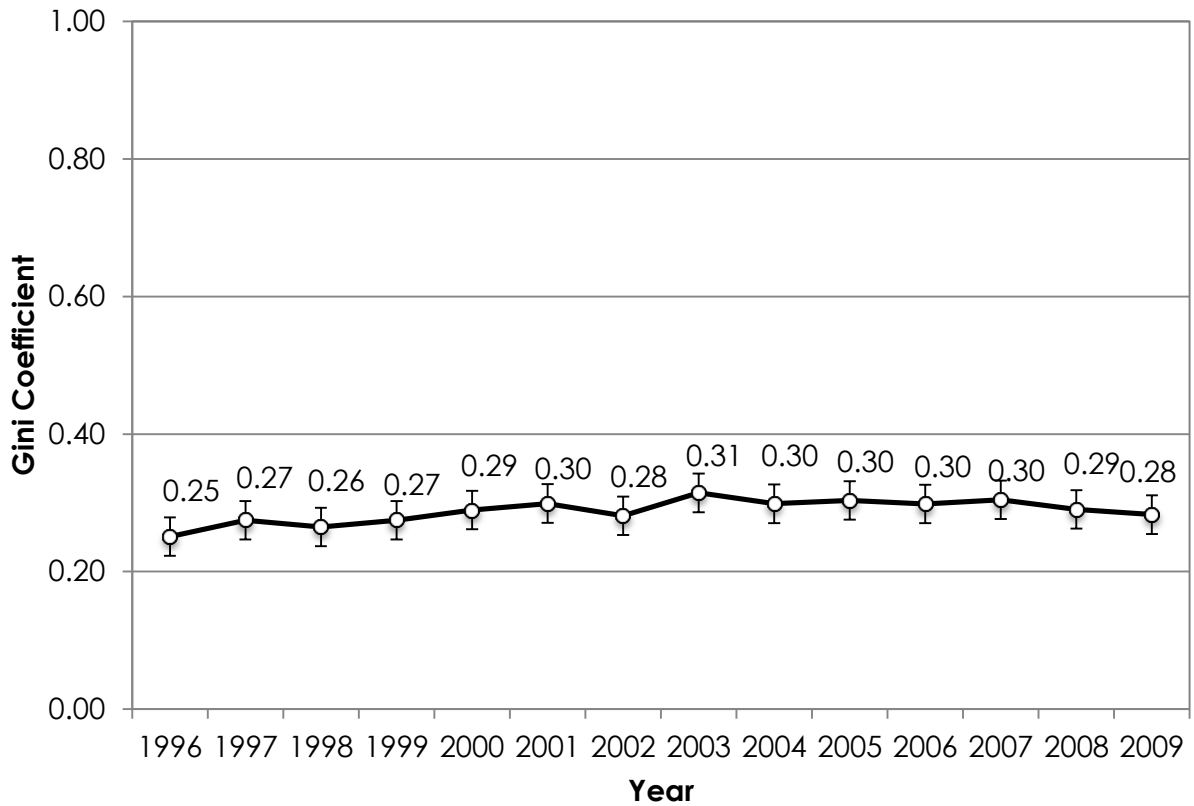


Table 1: Cancer Physician Billings Rate Ratios for Sex, Age, Quintile of Deprivation, Saskatoon, 1996 and 2009.

Cancer Rates	RR	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
Sex						
Male	1.00	-	-	-	-	-
Female	1.11	0.04	2.97	0.00	1.04	1.19
Age Category						
0 to 14	1.00	-	-	-	-	-
15 to 29	1.79	0.09	12.25	0.00	1.63	1.97
30 to 44	3.25	0.16	24.11	0.00	2.96	3.58
45 to 64	6.47	0.27	44.28	0.00	5.96	7.03
65+	15.39	0.99	42.55	0.00	13.57	17.45
Deprivation Quintiles						
Q5	1.00	-	-	-	-	-
Q4	1.15	0.32	0.49	0.62	0.67	1.97
Q3	0.98	0.28	-0.06	0.96	0.57	1.71
Q2	0.52	0.14	-2.36	0.02	0.30	0.89
Q1	0.34	0.08	-4.52	0.00	0.22	0.55
Year						
1996	1.00	-	-	-	-	-
1997	1.67	0.38	2.27	0.02	1.07	2.61
1998	1.71	0.39	2.34	0.02	1.09	2.67
1999	1.77	0.41	2.48	0.01	1.13	2.79
2000	2.27	0.51	3.63	0.00	1.46	3.53
2001	2.10	0.50	3.12	0.00	1.32	3.36
2002	1.76	0.43	2.30	0.02	1.09	2.86
2003	2.07	0.50	3.05	0.00	1.30	3.31
2004	1.99	0.47	2.88	0.00	1.25	3.18
2005	1.84	0.44	2.59	0.01	1.16	2.93
2006	1.72	0.39	2.40	0.02	1.11	2.67
2007	1.58	0.39	1.85	0.06	0.97	2.55
2008	1.39	0.32	1.42	0.16	0.88	2.19
2009	1.47	0.38	1.51	0.13	0.89	2.43

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.