

Advancing Health Equity in Health Care

Hospital Discharges Chronic Obstructive Pulmonary Disease

Highlights

- Hospital discharges for Chronic Obstructive Pulmonary Disease (COPD) are decreasing over time for the general population.
- COPD hospital discharges show the highest overall inequality of all the hospital discharges studied.
- The gap in inequality is narrowing over time, although it remains one of the widest.
- From 1995 to 2011, 45% of COPD hospital discharges occurred for people living in the highest areas of deprivation, compared to 10% 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 7,542 hospital discharges for COPD in Saskatoon. There were 3,931 hospital discharges among men and 3,611 hospital discharges among women. In the city as a whole COPD hospital discharges decreased by 61% from 2.8 to 1.7 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 COPD rates. The disparity rate ratio increased by 32% from 2.6 in 1995 to 3.4 in 2011. The disparity rate difference decreased by 16% from 2.6 in 1995 to 2.2 in 2011.

Figure 1: Crude Chronic Obstructive Pulmonary Disease (COPD) Hospital Discharge Rate per 1000 Population by Quintile of Deprivation, Saskatoon, 1995 to 2011.

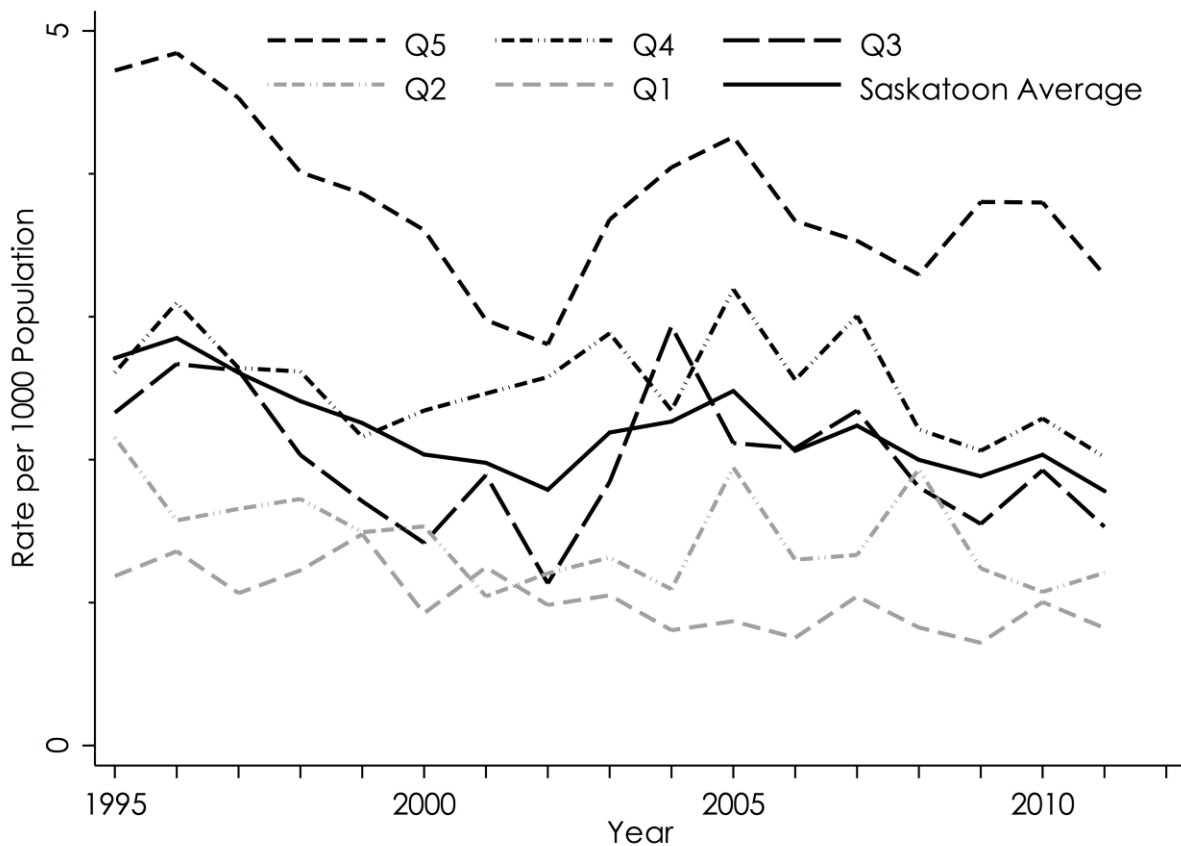
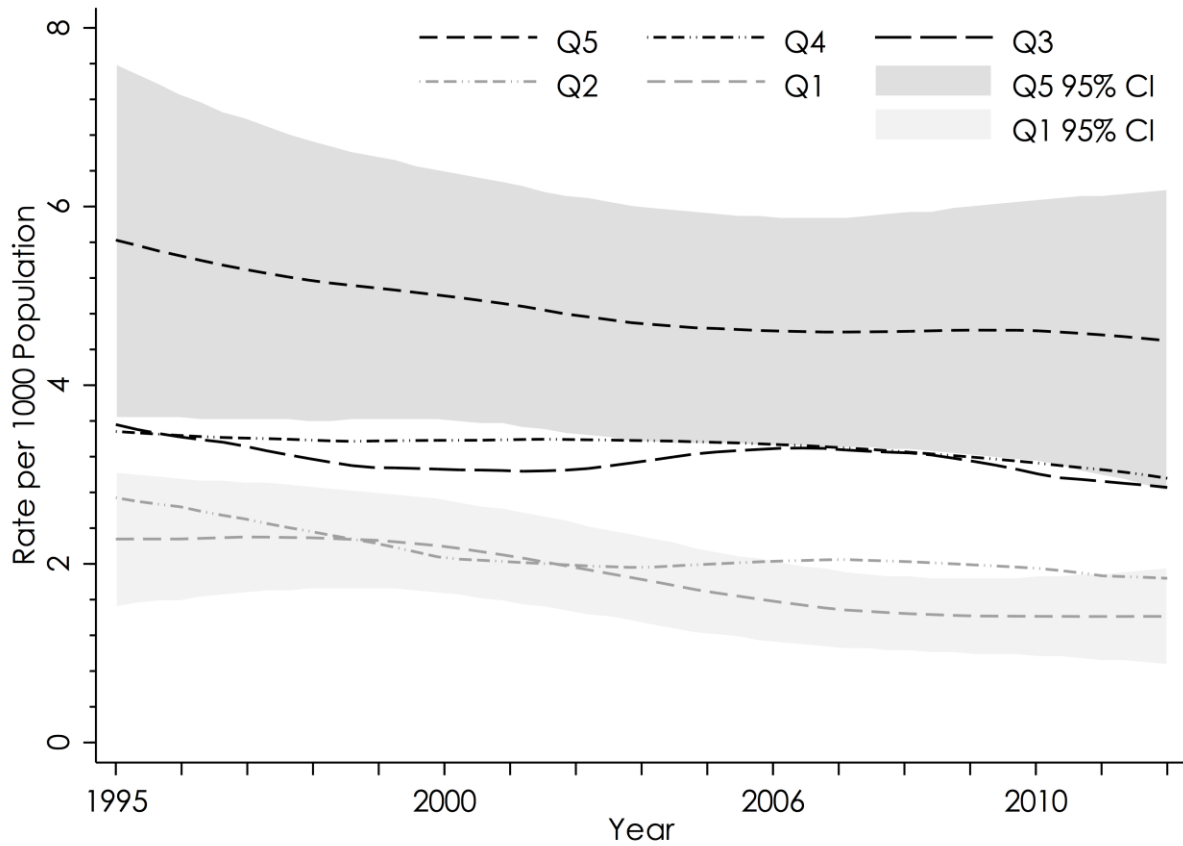


Figure 2: Adjusted Chronic Obstructive Pulmonary Disease (COPD) Hospital Discharge Rate per 1000 Population by Deprivation Area, Saskatoon, 1995 to 2011.



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 Chronic Obstructive Pulmonary Disease (COPD) 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 45% of the COPD hospital discharges occurs among residents in areas of highest deprivation, representing 24% of the total population of Saskatoon. In contrast, 10% of COPD 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 Chronic Obstructive Pulmonary Disease (COPD) Hospital Discharges, Saskatoon, 1995 to 2011.

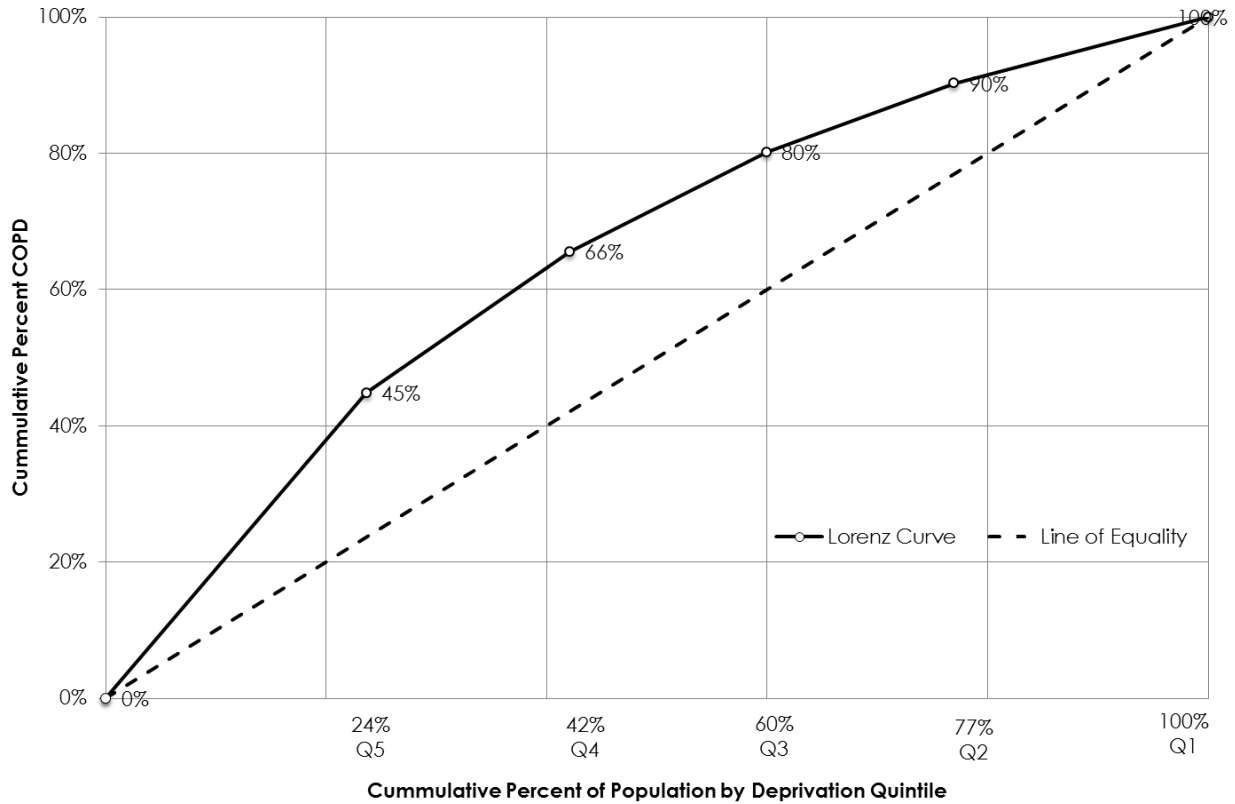


Figure 5 shows that the Gini coefficient was 0.33 (95% CI: 0.30 to 0.35) in 1995 a small non statistically significant reduction to 0.28 (95% CI: 0.26 to 0.30) occurred between 1995 and 2011. A Gini coefficient ranging between 0.23 to 0.36 represents a high degree of inequality for COPD hospital discharges in Saskatoon.

Figure 5: Age and Sex Adjusted Gini Coefficients for Chronic Obstructive Pulmonary Disease (COPD) Hospital Discharges, Saskatoon, 1995 to 2011.

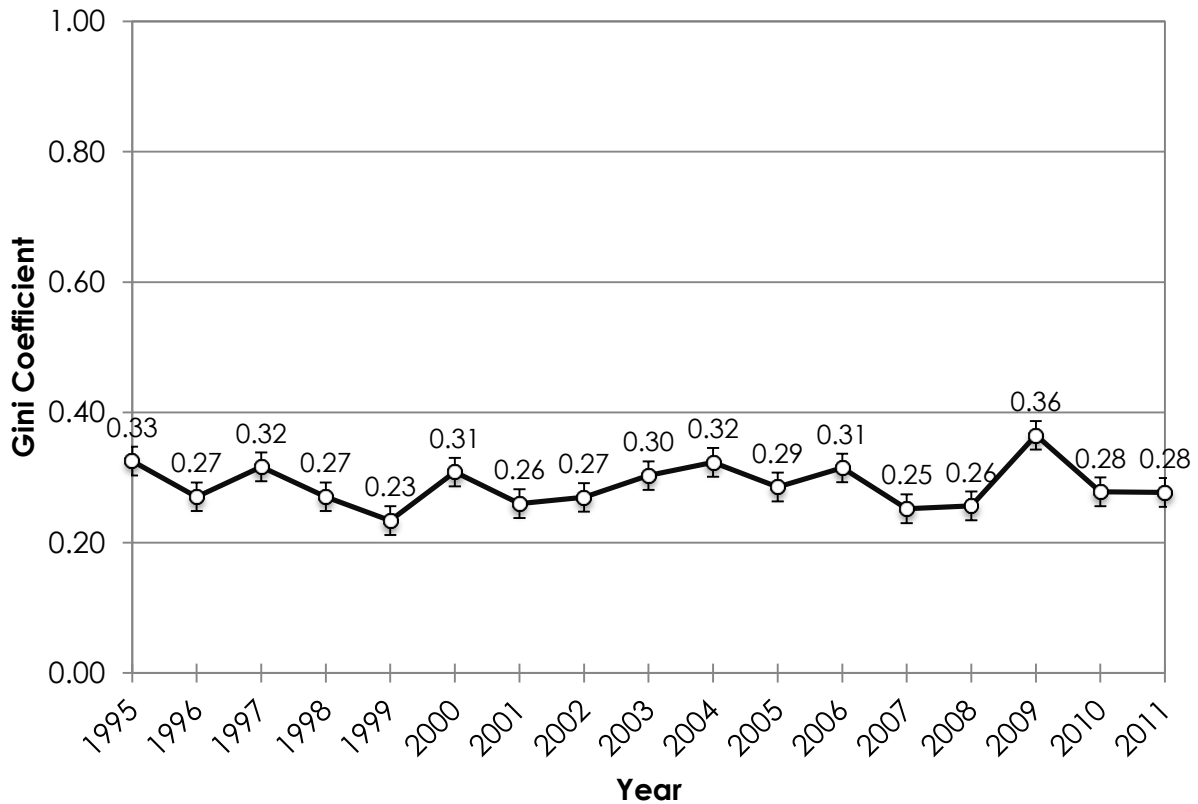


Table 1: Chronic Obstructive Pulmonary Disease (COPD) Hospital Discharge Rate Ratios for Sex, Age, Quintile of Deprivation, Saskatoon, 1995 and 2011.

COPD	Robust			[95% Conf. Interval]		
Rates	RR	Std. Err.	z	P>z		
Sex						
Male	1.00	-	-	-	-	-
Female	0.52	0.04	-7.55	0.00	0.44	0.62
Age Category						
0 to 14	1.00	-	-	-	-	-
15 to 29	0.20	0.02	-15.94	0.00	0.17	0.25
30 to 44	0.24	0.03	9.78	0.00	0.19	0.30
45 to 64	1.22	0.10	7.46	0.02	1.04	1.43
65+	13.73	0.74	5.33	0.00	12.35	15.27
Deprivation Quintiles						
Q5	1.00	-	-	-	-	-
Q4	0.77	0.26	-0.77	0.44	0.39	1.51
Q3	1.07	0.36	0.18	0.85	0.55	2.08
Q2	1.13	0.50	0.27	0.79	0.47	2.68
Q1	0.68	0.23	-1.17	0.24	0.35	1.30
Year						
1995	1.00	-	-	-	-	-
1996	0.98	0.31	-0.08	0.94	0.53	1.81
1997	0.97	0.33	-0.10	0.92	0.49	1.90
1998	0.83	0.26	-0.61	0.54	0.45	1.52
1999	0.80	0.26	-0.67	0.50	0.43	1.52
2000	0.76	0.25	-0.84	0.40	0.40	1.44
2001	0.63	0.22	-1.31	0.19	0.32	1.26
2002	0.59	0.20	-1.53	0.13	0.30	1.16
2003	0.75	0.24	-0.88	0.38	0.40	1.42
2004	0.80	0.25	-0.72	0.47	0.44	1.47
2005	0.91	0.33	-0.25	0.80	0.45	1.84
2006	0.74	0.26	-0.85	0.40	0.37	1.48
2007	0.71	0.25	-0.95	0.34	0.35	1.43
2008	0.64	0.21	-1.38	0.17	0.34	1.21
2009	0.73	0.23	-1.00	0.32	0.39	1.36
2010	0.75	0.23	-0.94	0.35	0.40	1.38
2011	0.62	0.19	-1.57	0.12	0.34	1.12

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.