

Measuring Trends in Health Inequalities across Urban Cities in Canada: A Focus on Health System Outcomes

Nichols, M¹, Chuang, J¹, Grimwood, S¹, Hynes, G¹, Harvey, J¹, Plante, C², Neudorf, C³, and Allin, S¹

¹Canadian Institute for Health Information

²University of Saskatchewan

³Saskatoon Health Region

Introduction

The majority of Canadians live in cities, which have experienced rising income inequality. This study examines how socio-economic inequalities in health system outcomes vary across and within Canada's major cities over time to better understand these differences and to support informed decision-making and public policy planning to reduce inequalities.

Objectives and Approach

This study links a range of hospitalization indicators with neighbourhood income quintile and city geography data using patient postal codes and Statistics Canada's Postal Code Conversion File Plus (PCCF+). Age-standardized indicator rates were calculated and income-related health inequalities were summarized using disparity rate ratio (DRR), disparity rate difference (DRD) and relative concentration index (RCI). Data were pooled across five-year intervals and linked to Census data years (2006, 2011, and 2016). City (Census Metropolitan Areas (CMAs)) and sub-city (Census Subdivisions (CSDs)) results enabled comparisons within and across cities and provided local level information to strengthen measuring and monitoring of health inequalities.

Results

Analysis of the age-standardized rates for the hospitalization indicators (Hospitalizations for COPD (less than 75 years), Heart Attacks, Injury, Stroke, Self-Injury, Opioid Poisoning, Ambulatory Care Sensitive Conditions, and Hospitalizations Entirely Caused by Alcohol), overall and by neighborhood income quintile revealed an income gradient and significant variations within and across the CMAs and over time. Variations in DRR, DRD and RCI results were also observed across the CMAs over time, and between the CSDs within a CMA. Income-related inequalities in some hospitalization indicators persisted in Canada's major cities with trends showing that people from lower income neighbourhoods experienced increased rates of hospitalization compared to people from

higher income neighbourhoods.

Conclusion/Implications

This is the first study examining socio-economic health inequalities at city and sub-city levels across Canada. The methods used are relevant to others interested in local health inequality measurement. Our analysis provides evidence for developing and targeting public policy and health interventions to improve outcomes for vulnerable populations within cities.

