

# Geographic inequalities in paediatric emergency department visits

## Fact Sheet No. 3

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# Introduction

The number of paediatric emergency department (PED) visits in Canada have been increasing [1-3], contributing to overcrowding in PEDs and impacts on patient care [3]. With approximately 70% of Canadians currently living in large urban areas, (i.e., census metropolitan areas [CMAs]) [4], it is important to understand the factors that contribute to variation in PED visits within and across CMAs [5-7]. Currently, there is limited knowledge about geographic inequalities in PED visits in Canada's urban areas and the contribution of social and environmental factors to these inequalities, as most research has focused on variation within urban areas in PED visits for respiratory conditions [5-7]. This fact sheet will highlight a study aimed to determine the within-metropolitan and across-metropolitan variation in PED visits in large urban centers in Ontario and Alberta, Canada.

## Definitions

*Census Metropolitan Areas (CMAs)* are large urban areas with a total population of at least 100,000, with a minimum of 50,000 residing in a population centre (also known as the core) [8].

*Forward Sortation Areas (FSAs)* are defined by the first three characters of the Canadian postal code [9].

*Social deprivation:* Social deprivation is based on information on the proportion of people living alone, proportion of separated, divorced, or widowed people, and proportion of single-parent families [15].

*Material deprivation:* Material deprivation is based on the proportion of people without a high school diploma, the employment/population ratio, and average personal income [15].

## The Impact of Geography

Geographic location can have an impact on health outcomes. Some research has highlighted the impact of deprivation on health, with children who live in deprived areas having worse health outcomes than children living in more advantaged areas [5, 10]. Within- and across-urban variations in health may occur due to factors such as different distributions of primary healthcare physicians [11, 12], or proximity to healthcare facilities [13, 14] (Figure 1).



**Figure 1: Contextual factors that may impact geographic variation in health events.**

## Study Spotlight: PED Visits in Urban Areas in Ontario and Alberta

The objective of the study was to determine the within-metropolitan and across-metropolitan variation in PED visits in large urban centers in Ontario and Alberta and assess if factors related to material and social deprivation, proximity to healthcare facilities, and supply of family physicians could explain the variation in PED visits. This study included data about PED visits among children (<18 years old) recorded between April 1, 2015, and March 31, 2017. There were 2,537,442 visits across 520 FSAs (103 FSAs in Alberta and 417 FSAs in Ontario) included in this study. Across both provinces' CMAs, the rate of PED visits was highest in Thunder Bay, Ontario and lowest in Windsor, Ontario. Socially deprived FSAs, FSAs with decreased proximity to healthcare facilities, and CMAs with a higher rate of family physicians per 1,000 children population had higher rates of PED visits. This study highlights the geographic inequalities in the rates of PED visits across Canada's large urban centers [15].

## Next steps

There are geographic inequalities in the rates of PED visits across FSAs in large urban centers in Canada. As some urban areas have higher rates of PED visits, future research should further explore how other environmental and social factors impact these variations. This would help to address health inequalities in urban regions.

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