

## Multi-province epidemiological research using administrative data in Canada: Challenges and opportunities

Butler, A<sup>1</sup>, Smith, M<sup>2</sup>, Jones, W<sup>3</sup>, Adair, C<sup>4</sup>, Vigod, S<sup>5</sup>, and Kurdyak, P<sup>6</sup>

<sup>1</sup>Simon Fraser University

<sup>2</sup>MCHP

<sup>3</sup>Centre for Applied Research in Mental Health & Addiction

<sup>4</sup>University of Calgary, Depts. of Psychiatry and Community Health Sciences, Cumming School of Medicine, and O'Brien Institute for Public Health

<sup>5</sup>Women's College Hospital

<sup>6</sup>Centre for Addiction and Mental Health

### Introduction

Canada has a publicly-funded universal health care system with information systems managed by 13 provinces and territories. This context creates inconsistencies in data collection and challenges for epidemiological research conducted at the national or multi-jurisdictional level.

### Objectives and Approach

Using a recent five-province research project as a case study (BC, AB, MB, ON, QC), we will discuss the strengths and challenges of using Canadian administrative health data in a multi-jurisdictional context. Our goal is to contribute to a better understanding of these challenges and the development of a more integrated and harmonized approach to conducting multi-jurisdictional research.

### Results

Multi-jurisdictional data work is feasible but requires detailed coordination and extensive cooperation from all involved. There were notable variations across provinces in this multi-province study. For example, time required to access the data varied greatly across the five provinces (from 4 to 9 months), and thus there were sequencing challenges, with some provinces being well into the analysis stage while others were still waiting for data. Access to human resources varied across provinces and in some cases led to delays in data abstraction. Cost of data (or analytic support) also varied across provinces, from \$12,000 – \$15,000. Critical to the success of the project was a coordinating group with expertise in both administrative health data and cross-provincial project coordination.

### Conclusion/Implications

This project demonstrated the value of comparable data infrastructure with equitable access policies. Many of the disadvantages to multi-province projects using health care administrative data, such as potential coding errors and inconsistencies, can be managed by developing national standards and protocols, and tools that are shared for data cleaning and validation.

