

TITLE: Using case mix aggregation to understand travel burden for hospital care in Canada

Introduction

Travel for hospital care can represent a significant burden for patients, their families and the health system. The burden associated with travel can vary depending on where you live and the type of care you require. This comparative analysis conducted by the Canadian Institute for Health Information (CIHI) examines travel burden for hospital care in Canada with a focus on the unique application of case mix aggregation variables to illustrate how travel burden differs depending on the care provided and the practitioners providing care.

Methods

A novel 5-point ordinal travel burden scale was developed to provide a more holistic assessment of relative travel burden for inpatient hospital care in Canada that goes beyond distance alone. CIHI's Discharge Abstract Database (DAD) data for 2018/19 through 2022/23 was used to perform the analysis. Measures included in the scale include travel distance, transportation availability, and patient characteristics. CIHI's Case Mix Group (CMG+) aggregation variables CMG+ Care Level and Provider Service Group were used to understand comparative travel burden patterns with the analysis stratified by geography, including variations by urban and rural locations across Canada.

Results

The results show that 1 in 11 people admitted to hospital have high or very high travel burden – increasing to 1 in 4 hospitalizations for people living in rural/remote areas. Travel burden varies by level of specialization with nearly 15% of patients who receive care associated with the CMG+ Provider Service Group Internal Medicine and Subspecialty having a high or very high travel burden, compared to 4% of patients for the Obstetric and Gynecology Provider Service Group. For patients in rural and remote areas, the percentage having high or very travel burden increases to 42% for Internal Medicine and Subspecialty and 19% for Obstetric and Gynecology.

Discussion/conclusions

The results provide a new way to look at travel burden and identify opportunities where patients in certain geographic areas or who require specific care may face higher travel burden, identifying opportunities for improvement of local service provision. For health system decision-makers and planners, information about patient travel, can help to inform decisions about service planning, including where to locate sites and services, the implication of changes, and allocation of services to maximize access and sustainability.