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Investigating Biases in Seniors' Drug Data Coverage in Canada

Samuel A Stewart¹, Jeanyoung Park¹, Maia von Maltzahn¹, Emily Black¹, Jennifer E Isenor¹, Ingrid Sketris¹, and Shanna Trenaman¹

¹Dalhousie University, Halifax, Canada

Background

While no province in Canada covers the cost of prescriptions for all of its residents, all have some form of provincial supplementary coverage (PSC) to cover some costs for particular subgroups (based on age, economics, and/or diagnosis). This PSC data can provide insights into the drug dispensation patterns of the population, but they often have significant biases that are often ignored in the literature.

Objectives

The objective of this research is to explore the differences between Drug Information System (DIS) and PSC data in the province of Nova Scotia (NS). METHODS: Demographic data on all eligible Nova Scotians, and their prescriptions in both the DIS and NSSPP, were extracted from August 2016–December 2024. Residents were classified as recipients, non-recipients, and non-consumers, and their demographics and prescription patterns were explored.

Results

There were over 342 000 residents eligible for NSSPP during the study window. Over 61 million prescriptions for these individuals were dispensed across the two databases, 38 million of which were paid for by NSSPP (63%). NSSPP paid for prescriptions for 58% of the population, though very few citizens had their prescriptions exclusively paid for by NSSPP (8.2%). Those that didn't receive prescriptions through NSSPP tended to be younger and more female.

Conclusions

The data from NS show a clear potential for biases in using PSC data as a representative sample of seniors, with biases based on both age and gender. Future research will explore how potential patient disease patterns may influence coverage within the system.

