TITLE: Exploring integration of pharmaceutical data into CIHI Population Grouping Methodology – a pilot study

Introduction

The Canadian Institute for Health Information (CIHI) population grouping methodology (CIHI POP Grouper) looks at the population over an extended period across multiple healthcare settings and assigns each person in the population a clinical profile that includes health conditions, Health Profile Group (HPG), cost weights, and predicted future use of select health services. In a recent study, CIHI explored the impact of including information from pharmaceutical data for a sub-population who received pharmaceutical care via publicly funded drug programs in the POP Grouper.

Methods

The data used in this study included clinical and cost data for inpatient, day surgery, emergency department and physician visits as well as clinical data for long-term care and home care services between fiscal years 2015/16 and 2016/17. The population of interest included individuals who received prescribed medications via publicly funded drug programs where clinical information was captured in the National Prescription Drug Utilization Information System (NPDUIS).

The pilot study adopted an existing drug-disease pairing methodology to map prescription drugs (as a proxy) to health conditions, and this information was then used to help confirm the diagnoses captured in primary health care data, as well as conduct descriptive analyses to assess the impact of including pharmaceutical data on building population clinical profiles.

Results

With the addition of pharmaceutical data, on average more health conditions and higher cost weights were assigned to a person's clinical profile. Inclusion of pharmaceutical data also moved a good proportion of the clients to a different or more severe health condition category.

Discussion

The pilot study showed that adding pharmaceutical data helps improve population clinical profiles by providing additional clinical information to complement the picture of an individual's health care resource requirements.

While the pharmaceutical data adds valuable information to population clinical profiles, limitations and challenges are also noted. For example, lack of comprehensive drug-disease pairing methodology, off-label use of prescription drugs, multi-purpose medications, and data coverage limitations. As more comprehensive methodology is developed and more pharmaceutical data becomes available to CIHI, the study will continue to be refined and explore if including pharmaceutical data helps to improve the performance of POP Grouper predictive models and further describe population's resource requirements.