Title: Supporting patient care across provincial/territorial boundaries in Canada with patient cost data

Introduction

Each year, Canadians receive healthcare outside their home province or territory, resulting in approximately 350,000 ambulatory visits, 45,000 hospital stays, and over $1 billion in healthcare spending. Interprovincial hospital billing ensures Canadians can access healthcare services nationwide without out-of-pocket costs, in alignment with the *Canada Health Act*.

To support fair compensation between jurisdictions, interprovincial billing rates are calculated using Canada's patient-level cost data, primarily from the Canadian Patient Cost Database (CPCD), alongside financial, operational, clinical, and case mix data. These datasets enhance billing models and processes to adapt to evolving healthcare needs.

In the early 2000s, the Canadian Institute for Health Information (CIHI) introduced activity-based, patient-level costing methodologies built on the Canadian MIS (Management Information System) Standards. This enabled hospitals to report expenses at the functional-centre level for each hospital stay and outpatient visit, contributing to the development of CIHI's Canadian Patient Cost Database (CPCD).

Methods

The CPCD has been instrumental in creating and refining interprovincial billing methodologies for various healthcare services, for example, organ transplants, outpatient visits, well newborns and PET-CT scans. The rates are based on the average per-day cost, calculated by dividing actual full costs by service activities.

Organ transplant rates: The transplant day's cost is calculated as a block rate using CPCD data, while hospital-specific inpatient per-diem rates from CIHI's Canadian MIS Database (CMDB) apply to the remaining days of hospitalization.

Outpatient visit rates: These rates are generated by integrating data from CPCD, CIHI's National Ambulatory Care Reporting System (NACRS) and CACS (Comprehensive Ambulatory Classification System) grouping methodology. Visits are categorized into one of eight billing service code groups based on CACS intervention or group. Rates are calculated using three years of costed records. Day surgery rates are further divided into low, medium and high-cost categories.

Well newborn rate: The newborn rate is generated by dividing the average cost per day from CPCD by the total hospital length of stay, sourced from CIHI's Discharge Abstract Database (DAD). Well newborns are defined using Case Mix Group (CMG) methodology.

PET-CT scan rate: The indirect costs are derived from CPCD while the direct cost is calculated using the PET-CT functional center in CMDB.

Results

National interprovincial billing rates are calculated annually and approved by Health Canada using CPCD and other relevant databases. Comparisons between model-generated compensation and actual hospital costs help validate rate accuracy and fairness.

Discussion

The effectiveness of interprovincial billing rates depends on the availability and quality of patient-level cost data. However, the scope and completeness of patient costing data in Canada vary by province and territory. Expanding data coverage and improving cost reporting would enhance rate accuracy, better reflect special care needs, and accommodate smaller patient populations. Additionally, broader data collection would enable hospitals to implement more sophisticated billing models and extend interprovincial billing to a wider range of healthcare services and settings.