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Estimating Costs to Patient Groups in Absence of Patient Costing

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Introduction

With increased adoption of value-based funding, it is crucial to understand costs associated with specific types of patients. While patient level costing is powerful in determining these individual costs, in its absence, it is possible to use aggregate data to estimate costs for service recipient categories (e.g. Inpatient, Client Hospital, Resident) and types (e.g. Inpatient - Acute, Resident - Mental Health). This paper describes the Service Recipient Costing Allocation (SRCA) methodology that estimates the costs of twenty different service recipient and types.

Methods

Financial and clinical data is reported according to the Canadian Management Information Systems (MIS) standards and is used to estimate the expenses allocated to a particular type of patient for each functional centre in each facility across Canada.

The expenses are allocated according to a defined methodology for functional centre groupings that have similar costs and clinical activity. In each of the areas, various models and allocation methodologies were evaluated and developed alongside standards experts who helped determine how real-world activity could inform the final methodology. The Canadian Patient Costing Database (CPCD) was also used to inform weights used in some of the allocation methodologies. Finally, the cost allocation estimations were compared to the results of existing indicators including the Cost of a Standard Hospital Stay (CSHS) to test for comparability the impact of methodological changes on indicator results.

Results

In every functional area, workload is the preferred method of allocation. Workload was deemed reasonable within limits based on the minimum wage and a rate of $500/hour used commonly in other financial efficiency indicators. In cases where workload was not reported or deemed unreasonable, service activity statistics were used.

In Nursing Inpatient Services and Ambulatory Care Services, multivariate regressions were used to determine the weight of costs allocated to visits and inpatient days and then allocated to service recipient cost pools based on the service recipient reporting in each statistic. Operating Room / Post-Anesthetic Recovery Room expenses were allocated using surgical and post-anesthetic recovery room visits with a heavier weight given to inpatient surgeries over day surgeries as informed by data from the CPCD. To allow for the high variability in costs per service activity within Diagnostics & Therapeutics, the statistics were used to directly allocate costs to include costs that would have been excluded through regressions. Community Care Services were also allocated directly with service activity statistics.

Discussion/Conclusions

With allocation of costs to more specific service recipient types, the SRCA creates the building blocks that will allow for future analysis and development of indicators to determine costs of specific types of patients. Compared to other existing methodologies of cost allocation that tend to examine one patient/service recipient category or type, the SRCA allows the estimation of expenses related to many different service recipient categories and types at once. The methodology is also one of the first methodologies that is flexible enough to be applied to both the hospital and non-hospital settings which will help get a better sense of the costs associated with the whole patient trajectory.

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