

**Indicator:**

Hospital Inpatient Care Case Costs

**Category in the Interactive Health Data Application (IHDA):**

Health Costing

**Availability in the IHDA:**

Total inpatient activity (stays), and case costing where available. The data is available for Alberta and selected sub-provincial geographic service areas: Edmonton and Calgary zones, and combined rural zones (activity only).

The inpatient costing data is available in two separate files; 1) for 2006/2007 the data is aggregated by CMG/Plex, and 2) for the years 2006/2007 to 2009/2010, the data is aggregated by CMG+, Version 2011.

**Overall Description:**

Average, Median and 90<sup>th</sup> Percentile Costs, unadjusted and with inflation adjustment (to 2009/2010) for fiscal years 2006/2007 to 2009/2010; Average, Median and 90<sup>th</sup> Percentile Length of Stay for Total Inpatient Activity and Case Costed Inpatient Stays, with Breakdowns by Typical, Atypical and Combined Stays.

**Data Source(s):**

- 1) Alberta Health Services, Activity & Costing, Financial Planning
- 2) Alberta Health Business Intelligence Environment (BIE) - Morbidity and Ambulatory Care Abstracting Reporting (MACAR) system.
- 3) Canadian Institute of Health Information (CIHI)

**Methodology:**

There are two components to the inpatient care data utilized by Alberta Health in developing case costs: activity data and patient specific cost data.

**Activity data:**

Patient specific activity data is collected for inpatient stays in Alberta, using the Morbidity and Ambulatory Care Abstracting Reporting (MACAR) system.

The inpatient activity data is grouped by Case Mix Grouper (CMG). Nationally, CIHI sponsors the use of case mix groupers for inpatient cases and periodically, provides updated groupers. The most recent grouper is named CMG+. The Alberta health system adopted this new grouper effective for the 2007/2008 fiscal year. CMG+ is significantly different from the previous case mix grouper referred to as CMG/Plex. Prior fiscal year, 2006/2007 results have been restated to CMG+, to be consistent with 2007/2008 and later reporting. Further information on CMG+ and case mix assignments is provided by CIHI in their Case Mix Decision-Support Guide: CMG+. For more information, please contact [casemix@cihi.ca](mailto:casemix@cihi.ca).

**Cost data:**

Cost data contains functional centre direct costs (including nursing, salaries for patient care managers, medical staff administration, and surgical supplies, as well as operating room and ICU costs, diagnostic imaging, laboratories), functional centre indirect costs (including general administration and support services such as finance, material management, facilities management,

registration, plant operations, patient food services, and health records, associated human resources). Other costs are patient specific drug and supply costs, as well as non-specific patient drug allocations.

A case may appear in more than one functional centre and will be included only in the functional centres where the care was provided. Average costs are calculated using only the cases that use that particular functional centre.

The submitted costs exclude the following expenditures: amortization of building and leasehold improvements, contributed services, and the full cost of ancillary operations.

The data submitted was edited for reasonability. The following list describes the type of edit checks used:

Inpatient activity data

- a) exclude any cases with a case cost of less than \$200.00 if the length of stay is greater than one day
- b) exclude any cases without nursing costs
- c) exclude any cases with a cost per day less than \$100.00
- d) exclude any cases which did not include allocated overhead costs
- e) exclude any cases with an invalid length of stay

***Cost Data Linking:***

Cost data files are initially summarized into one record that includes the total case cost. The second step is to link these costed cases to the activity files to obtain grouper assignments (CMG/plex or CMG+) and length of stay (LOS). Once linked, inpatients stay records can be aggregated, and cost and LOS statistics may be calculated by selected criteria.

**Cost computations:**

The cost computation processes used in this report are consistent with the prior year. For reporting purposes, simple averages, median and percentiles were used. However, 2006/2007, 2007/2008 and 2008/2009 costing were adjusted for inflation, to 2009/2010 to assist users that want to compare multiple years of data. The inflation adjustment applied to 2006/2007 costs was 13.82 per cent, to 2007/2008 was 9.79 per cent, and to 2008/2009 was 4.73 per cent.

**Geographic Assignment**

Activity and where available, costing results are shown by zone of service: Calgary, Edmonton, Rural, and Alberta Total. Results shown for Rural Zone are for total aggregated facilities outside of Calgary and Edmonton zones, and include activity only, as at present, case costing is only reported in selected facilities within the Calgary and Edmonton zones.

**Data Issues:**

The bulk of the costs for inpatient cases flow from inpatient nursing functional centers, therefore, only sites with the ability to track nursing costs on a patient specific basis are available. Since inpatients routinely receive services in other functional centers such as operating and recovery rooms, diagnostic imaging and laboratory services, regions have developed the capability to track costs in these centers on a patient specific basis. Where this capability does not exist, AHS uses allocation models to ensure that appropriate costs are properly distributed to inpatient cases.

\*Note, if a selection criteria returns no results, it implies that the data for that combination of measure, case type, grouper, year, and geography have been suppressed due to small number of cases.