

## Cost per Weighted Case

### Name and Definition

<b>Full Name</b>	Cost per Weighted Case	
<b>Short Name</b>	Cost per Weighted Case	
<b>Definition</b>	The Cost per Weighted Case (CPWC) indicator measures the ratio of a hospital's total acute inpatient care expenses to the number of acute inpatient weighted cases related to the inpatients for which the hospital provided care.	
<b>Domain</b>	Health Services Delivery	
<b>Dimension</b>		
<b>Acceptability</b>	<b>Efficiency</b>	<b>Appropriateness</b>
No	Yes	No
<b>Effectiveness</b>	<b>Accessibility</b>	<b>Safety</b>
No	No	No
<b>Category of Measure</b>	Health System Outcomes	
<b>Type of Measure</b>	Outcome Measure	
<b>Other Comments / Notes</b>	Note for name of measure: "Average cost of a hospital stay" is sometimes used as an alternative name for this performance measure.	

### Context

<b>Business Context</b>	Alberta Health Business Plan 2014-2017
	Alberta Health Outcomes and Measurement Framework
<b>Rationale</b>	<p>The cost per weighted case indicator was developed to measure cost-efficiency in hospitals.</p> <p>The indicator can provide insight into the total cost to treat an average inpatient with a Resource Intensity Weight (RIW) of 1, to improve cost-efficiency.</p> <p>This indicator tracks how hospitals utilize their resources. It combines the financial spending with the activity that drives the spending. By focusing on weighted cases, comparability is enhanced as differences in acuity, severity and complexity of cases are taken into consideration.</p>
<b>Notes for Interpretation</b>	<p>Cost per weighted case is an indicator that measures the relative cost-efficiency of a hospital's ability to provide acute inpatient care. This indicator compares a hospital's total acute inpatient care expenses to the number of acute inpatient weighted cases related to the inpatients that it provided care for. The result is the hospital's average full cost of treating the average acute inpatient. A high cost per weighted case indicates a relatively high cost of treating the average acute inpatient; a low cost per weighted case indicates that the cost of treating the average acute inpatient is relatively low.</p> <p>Unit of Analysis: An acute inpatient weighted case. The indicator is calculated by fiscal year.</p> <p>The four primary factors that influence indicator results are organizational structure, components of CPWC, methodological issues and data quality. Other factors might include geography, staff mix, labour rates, rural/urban, type (e.g. pediatric vs general), etc.</p> <p>This indicator has been adjusted for patient complexity by the use of weighted cases in the denominator. The weighted cases used in here are grouped using CMG+ (Case Mixing Group +) 2012</p>
<b>Organizational Strategy</b>	<p>- Alberta Health Business Plan 2014-2017</p> <ul style="list-style-type: none"> <li>o Goal three: Albertans have enhanced access to high quality, appropriate, cost effective health care and support services.</li> <li>o Priority Initiatives 3.8 Develop an Acute Care Strategy to shift Alberta's acute and ambulatory care facilities and programs to be more patient-centred and better support Albertans' care needs, improve health outcomes and sustainability.</li> </ul>

## Performance Measure Definition

- AHS Health Plan and Business Plan 2013-2016

- o Working together, Alberta Health and Alberta Health Services will take a “triple aim” approach in improving health care: improving patient experience and quality of care, improving health outcomes and improving value for money. One of the strategic directions informed by the “Triple Aim” approach is “Achieving Health System Sustainability”.
- o In the short-term, AHS will undertake initiatives to manage unit costs, achieve operational efficiencies and productivity improvements, optimize service delivery and implement new funding models and revenue opportunities to manage costs and deliver on AHS’s strategic directions.
- o AHS will also continue to work to ensure long-term sustainability. Focused efforts that guide system transformation and foster long-term sustainability are needed in areas such as:
  - Delivering innovative service models for complex, high needs populations;
  - Strengthening community and primary health care to deliver care in the most appropriate setting; and
  - Advancing the adoption of evidence-informed practices and clinical appropriateness.

### Benchmark Comparisons

Cost per weighted case for Canada is used for comparison.

### Cited References

Indicator Library - Cost per weighted case, CIHI  
 Available at:  
<http://indicatorlibrary.cihi.ca/pages/viewpage.action?pagelId=1114237>

Canadian Hospital Reporting Project Technical Notes—Financial Indicators, CIHI  
 Page 6 – 16  
 Available at:  
[http://www.cihi.ca/CIHI-ext-portal/pdf/internet/CHRP\\_TNFI\\_PDF\\_EN](http://www.cihi.ca/CIHI-ext-portal/pdf/internet/CHRP_TNFI_PDF_EN)

Cost per weighted case results  
 Available at:  
<http://ourhealthsystem.ca/#!/indicators/015/average-cost-of-a-hospital-stay>

Alberta Health Business Plan 2014-2017  
 Available at:  
<http://www.finance.alberta.ca/publications/budget/budget2014/health.pdf>

AHS Health Plan and Business Plan 2013-2016 Page 10, 24  
 Available at:  
<http://www.albertahealthservices.ca/Publications/ahs-2013-16-health-business-plan.pdf>

CMG+ Directory  
 Available at:  
<https://secure.cihi.ca/estore/productSeries.htm?locale=en&pc=PCC358>

CMG Client Tables  
 Available at:  
<https://secure.cihi.ca/estore/productSeries.htm?locale=en&pc=PCC566>

## Technical Specifications

<b>Metric</b>	Ratio		
<b>Preferred Display Format</b>	\$9,999 (Canadian Dollars)		
<b>Numerator</b>	Total Inpatient Cost by the facility		
<b>Inclusion Criteria for Numerator</b>	<ul style="list-style-type: none"> <li>• Direct Care Costs – These are costs incurred through the direct care of hospital inpatients.</li> <li>• Non-Patient Costs – These are costs that are incurred through non-patient care activities (e.g. a proportional share of finance, human resources, systems support, etc).</li> </ul>		
<b>Exclusion Criteria for Numerator</b>	Most expenses in the CMDB are used in this calculation; there are, however, some expenses in the hospital submissions that must be removed to facilitate comparability of CPWC values. The following adjustments are made:		
	<b>Secondary Financial Account</b>	<b>Description</b>	<b>Action</b>
	1 20	Recoveries From External Sources	Net against Expenses
	1 21	Recoveries Within Legal Entity	
	1 22	Recoveries—Interdepartmental	

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	3 10 85 3 50 85	Compensation—Management and Operational Support Personnel—Other Termination Benefits Compensation—Unit-Producing Personnel—Other Termination Benefits	Exclude
	3 90	Compensation—Medical Personnel	Exclude
	9 50 20	Amortization—Undistributed Land Improvements 1	Exclude
	9 50 40	Amortization—Undistributed Buildings 1	Exclude
	9 50 60	Amortization—Undistributed Building Service Equipment	Exclude
	9 55	Interest on Long-Term Liabilities	Exclude
<b>Data Source(s) for Numerator</b>	Canadian MIS Database (CMDB)		
<b>Refresh Rate for Numerator</b>	Annually		
<b>Data Steward for Numerator</b>	Canadian Institute for Health Information (CIHI)		
<b>Denominator</b>	Total acute inpatient weighted cases		
<b>Inclusion Criteria for Denominator</b>	The hospital's total acute, rehabilitation and mental health inpatient weighted cases from health records (that were calculated by CIHI using data from the DAD).		
<b>Exclusion Criteria for Denominator</b>	<ul style="list-style-type: none"> <li>• Day procedures cases</li> <li>• The inpatient weighted cases for mental health inpatients for those hospitals that have matching calculated inpatients costs in functional centre 71 2 75 (that is, those that are reporting mental health inpatient data to Ontario Mental Health Reporting System (OMHRS) or to the DAD using an institution number that is unique for mental health patients).</li> <li>• The inpatient weighted cases for rehabilitation inpatients for those hospitals that have matching calculated inpatients costs in functional centre 71 2 80 (that is, those that 21 are reporting rehabilitation patient data to the National Rehabilitation Reporting System (NRS) or are reporting rehabilitation patient data to the DAD using an institution number that is unique for rehabilitation patients).</li> </ul>		
<b>Data Source(s) for Denominator</b>	Canadian MIS Database (CMDB) Discharge Abstract Database (DAD)		
<b>Refresh Rate for Denominator</b>	Annually		
<b>Data Steward for Denominator</b>	Canadian Institute for Health Information (CIHI)		
<b>Technical Notes</b>	<p>For more details in determining the total inpatient cost and acute inpatient weighted cases, please see the "Cost per Weighted Case Methodology" document.</p> <p>Link to the methodology document:  <a href="http://indicatorlibrary.cihi.ca/download/attachments/1114237/Cost%20per%20Weighted%20Case%20Methodology.pdf">http://indicatorlibrary.cihi.ca/download/attachments/1114237/Cost%20per%20Weighted%20Case%20Methodology.pdf</a></p>		
<b>Calculation</b>	$\text{Cost per Weighted Case} = \frac{\text{Facility's Total Inpatient Costs}}{\text{Total Acute Inpatient Weighted Cases}}$		
<b>Relationship to Other Indicators</b>	Not applicable		
<b>Level of Reporting</b>	<b>National</b> No	<b>Provincial</b> Yes	<b>Zone</b> Yes <b>Site</b> Yes
<b>Reporting Notes</b>	Not applicable		
<b>Frequency of Reporting</b>	<b>Annually</b> Yes	<b>Quarterly</b> No	<b>Monthly</b> No <b>Other</b> No
<b>Other Reporting Frequency</b>	Not applicable		
<b>Limitations</b>	<p>There is approximately three years' time lag for CPWC.</p> <p>It is important to note that this indicator has a new methodology that incorporates better data quality checks. Due to the implementation of the more robust methodology, data is only available from 2009-2010. Cost per Weighted Case values calculated using the previous methodology should not be used to determine trends for this indicator.</p> <p>This indicator does not account for variances in labour rates across jurisdictions, which decreases comparability across jurisdictions.</p>		

