

*Hospital Report 2005: Complex Continuing Care*  
**Financial Performance and Condition Technical Summary**

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ISBN: 0-7727-8768-9

## Overview

In this section of *Hospital Report 2005: Complex Continuing Care* we provide the methodology used to select and calculate the measures of financial performance and condition for complex continuing care hospitals. A brief overview of data sources used, together with the steps taken to verify and validate data prior to calculating indicators, is provided. This document concludes with a presentation of descriptive statistics for the indicators used in *Hospital Report 2005: Complex Continuing Care*.

### Participating Hospitals

*Hospital Report 2005: Complex Continuing Care* divides hospitals into two groups: freestanding complex continuing care hospitals and acute care hospitals with complex continuing care programs. The former are facilities with a primary mission related to servicing a complex continuing care population. The latter are facilities that also serve other populations (most commonly by providing acute care services) in addition to their complex continuing care role.

*Hospital Report 2005: Complex Continuing Care* includes hospital-specific results for 11 of the freestanding complex continuing care hospitals in Ontario as well as 43 of the acute care hospitals with complex continuing care programs.

Although hospital specific values are reported only for participating hospitals, values calculated and presented for provincial means are based on data for *all* hospitals with complex continuing care activity on March 31, 2004 (the year-end date for 2003/04 fiscal year). The following table highlights hospital corporations that have agreed to have their results reflected in *Hospital Report 2005: Complex Continuing Care*.

	<b>Acute Care Hospitals with Complex Continuing Care Programs</b>	<b>Freestanding Complex Continuing Care Hospitals</b>	<b>Total</b>
Number participating	43	11	54
Number non-participating	50	2	52
Total	93	13	106

## Methods

Preparation of the Financial Performance and Condition Quadrant of the *Hospital Report 2005: Complex Continuing Care* required two research activities: identifying appropriate financial and statistical indicators and collecting, organizing and validating the data needed to calculate values for the indicators.

An extensive review of the literature related to complex continuing care financial performance was undertaken during the preparation of the *Hospital Report 2001: Complex Continuing Care*. To investigate whether any additional complex continuing care financial indicators were published since the previous report, a literature search was conducted for articles using HealthStar (2001 to 2003) and Medline (2001 to 2003) databases. Articles were selected for review if they met either of the following criteria: 1) the article examined financial performance measurement issues related to complex continuing care; or 2) the article described or discussed financial analysis of complex continuing care programs.

For *Hospital Report 2003: Complex Continuing Care*, an Advisory Panel of hospital executives, clinical directors, and managers with extensive knowledge of financial issues related to complex continuing care in Ontario assisted the research team with the evaluation and assessment of indicators presented in this quadrant. The Advisory Panel began by adopting the set of financial indicator categories used in previous Hospital Reports. These categories are:

- **Efficiency** – defined as a comparison of hospital output with the cost of inputs required to produce the output.
- **Financial Viability** – defined as positive financial outcomes that ensure long-term financial health.
- **Liquidity** – defined as the ability of an organization to meet its short-term obligations.
- **Capital** – defined as the capacity of the organization to acquire and manage long-term assets such as major equipment.
- **Human Resources** – defined as the allocation of human resources by hospitals to patient care and non-patient care activities.

For *Hospital Report 2005: Complex Continuing Care*, the indicators reported were the same as those reported in *Hospital Report 2003: Complex Continuing Care*. These indicators are:

1. Total Cost Per RUG-III Weighted Patient Day – measures the total cost of providing inpatient care to complex continuing care patients, and is stated on a weighted day basis.
2. Direct Cost Per RUG-III Weighted Patient Day – measures the direct cost of providing inpatient care to complex continuing care patients, and is stated on a weighted day basis.
3. Total Margin – measures the percent by which a hospital's total revenues differs from its total expenses, excluding the impact of facility amortization (land, building and building service equipment).
4. Unit Cost Performance – measures the extent to which a hospital's actual cost per equivalent weighted case differs from its expected cost.

5. Corporate Services – measures how much a hospital spends in areas of administrative services relative to its total operating expenses.
6. Current Ratio – measures the number of times a hospital's short-term obligations can be paid using the hospital's short-term assets.
7. Working Capital to Revenue – measures how much working capital (current assets less current liabilities) a hospital has compared to total revenues.
8. Patient Care Hours – measures the number of worked hours for patient care staff as a percent of a hospital's total worked hours.

Some of these indicators are reported for both freestanding and acute care hospitals with complex continuing care program.. Other indicators are only reported for freestanding hospitals. Details appear in the following chart.

	Acute Care Hospitals With Complex Continuing Care Programs	Freestanding Complex Continuing Care Hospitals
<b>Efficiency</b>		
1) Total cost per RUG-III weighted patient day	√	√
2) Direct cost per RUG-III weighted patient day	√	√
3) Unit cost performance	Cannot be calculated (Impossible to isolate data needed)	√
4) Corporate services	Cannot be calculated (Impossible to isolate data needed)	√
<b>Financial Viability</b>		
5) Total margin	Cannot be calculated (Impossible to isolate data needed)	√
<b>Liquidity</b>		
6) Current ratio	Cannot be calculated (Impossible to isolate data needed)	√
7) Working capital to revenue*	Cannot be calculated (Impossible to isolate data needed)	√
<b>Capital</b>		
No proposed indicators	n/a	n/a
<b>Human Resources</b>		
8) Patient care hours	Cannot be calculated (Impossible to isolate data needed)	√

*\*NOTE: In previous editions of Hospital Report, this indicator was named "Working Capital". The name has been changed this year to more accurately reflect the components of the indicator. However, the formula and technical specifications of the indicator remain the same.*

## Data Sources

The data used to calculate the indicators presented in this quadrant are submitted annually to the Ontario Ministry of Health and Long-Term Care (MOHLTC) using formats

specified by the Ontario Hospital Reporting System (OHRS). The OHRS is a comprehensive multi-year database of financial and statistical information describing the activities of Ontario hospitals. The costs reported in the OHRS are categorized as direct and indirect using the methods described in the Ontario Cost Distribution Methodology (OCDM). (For a detailed examination of the OCDM applied to 2003/04 data, see JPPC Website [www.jppc.org](http://www.jppc.org)). For the Total Cost per RUG-III Weighted Patient Day, Direct Cost per RUG-III weighted Patient Day and Unit Cost Performance indicators, data were obtained from the Ontario Joint Policy and Planning Committee (JPPC).

The financial data included in this report is for the 2003/04 fiscal year, which was the most recent data available during the research. Comprehensive indicator definitions, account codes and account definitions are provided in Appendix 1 for each of the indicators reported in this quadrant. Account descriptions have been added for completeness.

### ***Sector Codes***

In OHRS version 5.0, provincial sector codes were implemented to allow hospital expenses to be separated from other types of expenses, such as those for Community Mental Health and Community Care Access Centres. In *Hospital Report 2005: Complex Continuing Care*, only data reported under provincial sector codes beginning with the digit '1' (the sector code for hospital delivered services) were used to calculate financial performance and condition indicators. Therefore, the indicator values should reflect the financial and statistical activity of the hospital only.

### **Data Verification and Validation**

Although the financial data used in this study passed all of the MOHLTC edit checks, experience with use of internally generated accounting records for performance measurement has shown that data quality problems and reporting variations among hospitals may still be present.

One of the key objectives in publishing *Hospital Report 2005: Complex Continuing Care* is to improve the quality of data used for management and statutory reporting purposes. Accurate data lead to informed decisions. Accordingly, the research team was committed to ensuring that the most accurate data available were used for *Hospital Report 2005: Complex Continuing Care* indicators. To achieve this goal, a further data verification process that allowed hospitals to identify and correct data errors prior to the release of *Hospital Report 2005: Complex Continuing Care* was undertaken.

The 54 participating hospital corporations were provided with verification reports summarizing data elements used in the calculation of the indicators. Each hospital was advised of its own value for each measure of financial performance and condition. Hospitals were asked to review these reports and advise the research team of any errors in the data. No hospitals requested changes to their 2003-2004 data during or subsequent to the verification period.

In addition, the research team analyzed the data for outliers – data that are deemed to be either well above or below the normal range of values for each indicator. Outliers were defined as values above or below 1.5 times the inter-quartile range (calculated as the difference between the 75<sup>th</sup> and 25<sup>th</sup> percentile). The research team contacted hospitals that had outlier values in order to verify the data.

## **Performance Measurement**

### ***Benchmarks***

Benchmarks for two indicators in the Financial Performance and Condition quadrant are introduced in this year's report. Benchmarks were developed for the Total Margin and Current Ratio, which are among the most widely-used and accepted financial indicators. Benchmarks were determined by surveying the Chief Financial Officers of 137 acute and complex continuing care hospitals, 100 of whom responded. Among other questions, they were asked "How low would the indicator value have to be for you to be concerned about your hospital's financial performance on this indicator?" and "How high would the value have to be for you to be concerned about your hospital's financial performance on this indicator?" Median values of the answers to these two questions were established as the high and low benchmark values. Actual indicator values between the low and high benchmark values are considered to be good financial performance. Actual indicator values not between the low and high benchmark values are considered to be poor financial performance and / or to require investigation. The benchmark thresholds are also used in the e-Scorecard web product.

Development of indicator benchmarks and thresholds for other financial performance and condition indicators remains a research priority for future reports.

### ***High Performing Hospitals***

For freestanding complex continuing care hospitals, the *Hospital Report* series identifies high performing hospitals in two ways: 1) hospitals that meet "high performer" criteria in two or more quadrants; and 2) hospitals that meet "high performer" criteria in a single quadrant. Freestanding CCC hospitals were identified as high performers if they were below the provincial mean for both the Total Cost per RUG-III Weighted Patient Day and the Direct Cost per RUG-III Weighted Patient Day indicators and had values within the Hospital Report Research Collaborative benchmark ranges for the Current Ratio (between 1.0 and 2.0) and Total Margin (between 0% and 5%).

For acute care hospitals with complex continuing care programs, data collection processes and the combined mandate make it difficult to develop performance indicators that uniquely reflect complex continuing care activity in these settings. Although there are undoubtedly high performing acute care hospitals with complex continuing care programs, the data available to the research team at this time is not sufficiently robust to allow these hospitals to be identified.

## System-Level Findings

Table 1 shows descriptive statistics for each of the twelve indicators of Financial Performance and Condition, including mean, standard deviation, and quintile values (0, 20<sup>th</sup>, 40<sup>th</sup>, 60<sup>th</sup>, 80<sup>th</sup> and 100<sup>th</sup> percentiles). Just as the median is the value above and below which 50% of hospitals fall, percentiles provide the same information for different percentages of observations. For example, at the 20<sup>th</sup> percentile, twenty percent of hospitals had indicator values at or below that value in terms of performance evaluation and 80% of hospitals had indicator values above.

Table 2 shows descriptive statistics for each of the six hospital-specific indicators of Financial Performance and Condition for the freestanding complex continuing care hospitals, including mean, standard deviation, and tertile values (0, 33<sup>rd</sup>, 67<sup>th</sup> and 100<sup>th</sup> percentiles).

Table 1 – Descriptive Statistics for Hospital-Specific Indicators of Financial Performance and Condition for Freestanding Complex Continuing Care Hospitals and Acute Care Hospitals with Complex Continuing Care Programs

	<b>Total Cost Per RUG-III Weighted Patient Day</b>	<b>Direct Cost Per RUG-III Weighted Patient Day</b>
No. of Hospitals	106	106
Mean <sup>†</sup>	\$379.34	\$278.03
Standard Deviation	\$215.04	\$141.06
0 <sup>th</sup> percentile	\$228.73	\$153.49
20 <sup>th</sup> percentile	\$326.06	\$238.71
40 <sup>th</sup> percentile	\$376.74	\$274.05
60 <sup>th</sup> percentile	\$416.22	\$304.66
80 <sup>th</sup> percentile	\$487.34	\$342.45
100 <sup>th</sup> percentile	\$2147.05	\$1384.0

<sup>†</sup> This is a weighted mean of Ontario hospitals indicator values, not an arithmetic mean.

Table 2 – Descriptive Statistics for Hospital-Specific Indicators of Financial Performance and Condition for Freestanding Complex Continuing Care Hospitals only.

	<b>Unit Cost Perf</b>	<b>Corporate Serv</b>	<b>Total Margin</b>	<b>Current Ratio</b>	<b>Work Capital to Rev.</b>	<b>Pt Care Hrs</b>
No. of Hospitals	13	13	13	13	13	13
Mean <sup>†</sup>	NR	13.6%	4.3%	1.3	6.4%	61.0%
Standard Deviation	11.1%	2.1%	5.8%	2.4	35.9%	5.4%
0 <sup>th</sup> percentile	-23.5%	9.5%	-2.0%	0.5	-22.8%	49.9%
33 <sup>rd</sup> percentile	-9.8%	13.8%	3.4%	1.3	5.3%	59.8%
67 <sup>th</sup> percentile	0.1%	14.3%	6.7%	1.6	10.5%	60.6%
100 <sup>th</sup> percentile	19.8%	17.0%	21.7%	9.6	126.2%	73.2%

<sup>†</sup> This is a weighted mean of Ontario freestanding complex continuing care hospitals indicator values, not an arithmetic mean.

## APPENDIX 1: Indicator Definitions

### ***Total Cost per RUG-III Weighted Patient Day (\$)***

This indicator is calculated as follows:

$$\frac{\text{Direct Cost and Overhead Cost}}{\text{RUG-III Weighted Patient Day}}$$

Data Source: Ontario Joint Policy and Planning Committee (JPPC) documents. For more information, please refer to <http://www.jppc.org/rates/update.htm>

### ***Direct Cost per RUG-III Weighted Patient Day (\$)***

This indicator is calculated as follows:

$$\frac{\text{Direct Cost}}{\text{RUG-III Weighted Patient Day}}$$

Data Source: Ontario Joint Policy and Planning Committee (JPPC) documents. For more information, please refer to <http://www.jppc.org/rates/update.htm>

### ***Unit Cost Performance (%)***

The indicator is calculated as follows for fiscal year 2002-2003:

$$\frac{[\text{Actual Cost per Equivalent Weighted Case} - \text{Expected Cost per Equivalent Weighted Case}] * 100}{\text{Actual Cost per Equivalent Weighted Case}}$$

For fiscal year 2003-2004, this indicator is calculated as follows:

$$\frac{[\text{Actual Cost per Equivalent Weighted Case} - \text{Expected Cost per Equivalent Weighted Case}] * 100}{\text{Expected Cost per Equivalent Weighted Case}}$$

Data Source: Ontario Joint Policy and Planning Committee (JPPC) documents. For more information, please refer to <http://www.jppc.org/>

### **Corporate Services (%)**

This Indicator is calculated using the following formula:

[General Administration, Finance, Human Resources, Staff Recruitment and Retention, Systems Support, & Communication Expenses, Net of Recoveries except Cash Discounts, and excluding Medical Compensation and all Amortization] \*100

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Operating Expenses, Net of Recoveries and Excluding Medical Compensation and all Amortization

Codes used in the **numerator** include: Primaries 71110\*, 71115\*, 71120\*, 71122\*, 71125\*, 71130\*, revenue and expense secondaries 120\*, 121\*, 122\*, 3\*-9\*, excluding 12\*90, 390\*, 750\*, 751\*, 950\*, 951\*.

Codes used in the **denominator** include: Fund types 1 & 5, Revenue and Expense secondaries 120\*, 121\*, 122\*, 3\*-9\* excluding 390\*, 750\*, 751\*, 950\*, 951\*.

This indicator is calculated using **only** data reported using sector codes 1\*.

### **Total Margin (%)**

This indicator is calculated using the following formula:

[Total Revenues - (Total Expenses - Facility Amortization), excluding Externally Funded Research Projects] \* 100

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Revenues, excluding Other Vote, OHIP, Grant, Donation, Internal Recovery, and Externally Funded Research Revenues

Codes Used in the **numerator** include: All fund types, excluding primaries 7\*7 and 8\*7 in funds 2-9, revenue and expense secondaries 1\*-9 excluding 95020\*, 95040\*, 95060\*, 95065\*.

Codes used in the **denominator** include: All fund types, excluding primaries 72\*, 82\* and 7\*7 and 8\*7 in funds 3-9, revenue secondaries 1\*, excluding 11014\*, 11016\*, 11017\*, 11045\*, 12171\*, 12195\*, 12196\*, 12197\*, 122\*, 14\*, 15\*.

This indicator is calculated using **only** data reported using sector codes 1\*.

## ***Current Ratio***

This indicator is calculated using the following formula:

$$\frac{\text{Current Assets + debit Current Liability Balances excluding Deferred Revenues}}{\text{Current Liabilities, excluding Deferred Revenues + credit Current Assets, except Current Asset Contra Accounts}}$$

Codes used in the **numerator** include: Primary 1\* + debit balances in primary 4\* excluding 4\*8.

Codes used in the **denominator** include: Primary 4\* excluding 4\*8 + credit balances in primary 1\* except 1\*355.

This indicator is calculated using **only** data reported using sector codes 1\*.

The Current Ratio is represented as an absolute value and is therefore always positive.

**\*\*NOTE:** Data are adjusted for amounts not re-allocated on the trial balance to be consistent with financial statement reporting (e.g. only a net credit position across current cash accounts would be added to the denominator).

## ***Working Capital to Revenue (%)***

This indicator is calculated using the following formula:

$$\frac{[\text{Current Assets} - \text{Current Liabilities excluding Deferred Revenues}] * 100}{\text{Total Revenues, excluding Internal Recovery Revenue}}$$

Codes used in the **numerator** include: Primaries 1\* - 4\* excluding 4\*8.

Codes used in the **denominator** include: All fund types, Revenue secondaries 1\*, excluding 12171\*, 12195\*, 12196\*, 12197\*, 122\*.

This indicator is calculated using **only** data reported using sector codes 1\*.

After dividing the numerator by the denominator, the result is multiplied by -1 to obtain the Working Capital to Revenue indicator value.

***Patient Care Hours (%)***

This indicator is calculated using the following formula:

$$\frac{[\text{Nursing Inpatient Services, Ambulatory Care, and Diagnostic \& Therapeutic Worked \& Purchased Service Hours}] * 100}{\text{Total Operating Worked Hours, excluding Medical Compensation Hours}}$$

Codes used in the **numerator** include: Primaries 712, 713, 714, statistical secondaries 35010\*, 35090\*, 38010\*, 38090\*.

Codes used in the **denominator** include: Fund types 1 & 5, statistical secondaries 31010\*, 31090\*, 35010\*, 35090\*, 38010\*, 38090\*.

This indicator is calculated using **only** data reported using sector codes 1\*.