

Hospital e-Scorecard Report 2008: Complex Continuing Care
Financial Performance and Condition Technical Summary

This technical document has been updated by Adam Rondeau, Anyk Glussich, Imtiaz Daniel, Stefan Popowycz and Yujin Jiang for Hospital e-Scorecard Report 2008. Acknowledgement is given to Imtiaz Daniel, Dr Linda McGillis Hall, Dr Ian McKillop and Dr George Pink, the original contributors of the technical document.

Overview

In this section of *Hospital e-Scorecard Report 2008*, 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. The role of the Advisory Panel is discussed, together with the process used to select the indicators of financial performance and condition presented in the *Hospital e-Scorecard Report 2008*. This document concludes with a presentation of descriptive statistics for these indicators.

Participating Hospitals

In the *Hospital e-Scorecard Report 2008*, complex continuing care indicators of financial performance and condition are calculated for two groups of hospitals: 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.

The *Hospital e-Scorecard Report 2008* includes hospital-specific results for 14 of the freestanding complex continuing care hospitals in Ontario as well as 71 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, 2007 (the year-end date for 2006/07 fiscal year). The following table highlights hospital corporations that have agreed to have their results reflected in the *Hospital e-Scorecard Report 2008*.

	Acute Care Hospitals with Complex Continuing Care Programs	Freestanding Complex Continuing Care Hospitals	Total
Number participating	71	14	85
Number non-participating	17	1	18
Total	88	15	103

Methods

Preparation of the financial and statistical measures of 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.

Indicators representing these categories were presented in the *Hospital e-Scorecard Report 2006*. The e-Scorecard is a Web based, password-protected electronic application incorporating annual *Hospital e-Scorecard Report* indicators and underlying components. Its prime objective is to allow interactive comparative analysis among hospitals by providing predefined and customized reports and graphs.

For the *Hospital e-Scorecard Report 2008*, the indicators of complex continuing care are a subset of those reported in *Hospital Report 2003: Complex Continuing Care* and *Hospital Report* volumes subsequent to it. 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.

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

	Acute Care Hospitals With Complex Continuing Care Programs	Freestanding Complex Continuing Care Hospitals
Efficiency		
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)	√
Financial Viability		
5) Total Margin	Cannot be calculated (Impossible to isolate data needed)	√
Liquidity		
6) Current Ratio	Cannot be calculated (Impossible to isolate data needed)	√
Capital		
No proposed indicators	n/a	n/a
Human Resources		
No proposed indicators	n/a	n/a

Collecting, Organizing and Validating the Data Used

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 Healthcare Reporting Standards (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 the Total Cost per RUG-III Weighted Patient Day and Direct Cost per RUG-III Weighted Patient Day indicators, data were obtained from the MOHLTC. A detailed examination of these data and the OCDM can be found on the MOHLTC's website at http://www.mohltcfim.com/cms/client_webmaster/index.jsp.

The financial data included in this report is for the 2006/07 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.

Data 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 e-Scorecard Report 2008* 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 complex continuing care indicators in *Hospital e-Scorecard Report 2008*. To achieve this goal, a further data verification process that allowed hospitals to identify and correct data errors prior to the release of *Hospital e-Scorecard Report 2008* was undertaken.

The 85 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. In *Hospital e-Scorecard Report 2008*, two hospitals requested changes to their 2006-2007 complex continuing care data during or subsequent to the verification period.

Performance Measurement

Benchmarks

Benchmarks for two indicators in the Financial Performance and Condition quadrant were introduced in *Hospital Report 2005*. 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 used in *Hospital e-Scorecard Report 2008*.

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

System-Level Findings

Table 1 shows descriptive statistics for the two hospital-specific indicators of financial performance and condition that are calculated for all hospitals providing complex continuing care services. These statistics include the mean, standard deviation, and quintile values (0, 20th, 40th, 60th, 80th and 100th 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 20th 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 hospital-specific indicators of Financial Performance and Condition for the freestanding complex continuing care hospitals, including mean, standard deviation, and tertile values (0, 33rd, 67th and 100th 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

	Total Cost Per RUG-III Weighted Patient Day	Direct Cost Per RUG-III Weighted Patient Day
Number of Hospitals	103	103
Mean [†]	433.2	315.9
Standard Deviation	1021.4	781.6
0 th percentile	0.0	0.0
20 th percentile	392.4	280.2
40 th percentile	432.1	318.2
60 th percentile	491.3	347.9
80 th percentile	604.1	441.9
100 th percentile	10471.7	8039.8

[†] 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.

	Unit Cost Performance	% Corporate Services	Total Margin	Current Ratio
Number of Hospitals	15	15	15	14
Mean [†]	NR	13.4%	2.5%	1.1
Standard Deviation	NR	1.9%	3.8%	1.6
0 th percentile	-25.2%	10.1%	-3.4%	0.4
33 rd percentile	-9.6%	12.8%	0.1%	1.0
67 th percentile	4.0%	14.4%	2.2%	1.4
100 th percentile	36.7%	16.6%	12.7%	6.7

[†] This is a weighted mean of Ontario freestanding complex continuing care hospitals indicator values, not an arithmetic mean.

APPENDIX 1: Complex Continuing Care 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: Ministry of Health and Long-Term Care (MOHLTC) documents. For more information, please refer to http://www.mohltcfim.com/cms/client_webmaster/index.jsp

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: Ministry of Health and Long-Term Care (MOHLTC) documents. For more information, please refer to http://www.mohltcfim.com/cms/client_webmaster/index.jsp

Unit Cost Performance (%)

The 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:

$$\frac{\text{Corporate Services Expense} * 100}{\text{Expenses}}$$

OHRS Accounts

The **numerator** includes all functional centres defined by the OHRS as administrative services, with the exception of Administrative Services – Staff Recruitment and Retention. Amortization is excluded because of variations in the allocation of amortization to various functional centres. [Codes include: All sector codes except sector codes 2*, primaries 7*110*, 7*115*, 7*120*, 7*125*, 7*130*, revenue and expense secondary accounts 3*-9*, excluding 950*;net of revenue secondaries 12*.]

The **denominator** includes Total Expenses, Net of all Recoveries; [Codes include: All fund types in all sector codes except sector codes 2*, primary accounts 7* and 8*; revenue and expense secondary accounts 3*-9* excluding 950*, net of revenue secondaries 12*.]

Total Margin (%)

This indicator is calculated using the following formula:

$$\frac{\text{Revenues} - \text{Expenses} * 100}{\text{Revenues}}$$

OHRS Accounts

The numerator includes the surplus or deficit excluding facility amortization. (Total Revenues - Facility Grant Amortization) – (Total Expenses – Facility Amortization). [Codes include: All fund types in all sector codes excluding sector code 2*, revenue and expense secondary accounts 1*-9 excluding 122*, 69700, 95020; 95040; 95060; 95065; 13102; 14102; 15102; 15103].

The denominator includes all revenues excluding facility grant amortization . [Codes include: All fund types in all sector codes excluding sector code 2*, revenue secondary accounts 1*, excluding 122*, 12195, 12196; 12197; 13102; 14102; 15102; 15103].

Current Ratio

This indicator is calculated using the following formula:

Current Assets

Current Liabilities

OHRs Accounts

The numerator includes Current Assets plus debit Current Liability Balances excluding Deferred Revenues. [Codes include: All sector codes excluding sector codes 2*, primary 1* + debit balances in primary 4* excluding 4*8.]

The denominator includes Current Liabilities, excluding Deferred Revenues plus credit Current Assets, except Current Asset Contra Accounts. [Codes include: All sector codes excluding sector codes 2*, primary 4* excluding 4*8 + credit balances in primary 1* except 1*355.]

****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).