

Hospital Report 2006: Rehabilitation

Financial Performance and Condition Technical Summary

**Anyk Glussich
Ian Button
Dr. Linda McGillis Hall
Dr. Ian McKillop
Dr. George Pink
Greg Zinck
Imtiaz Daniel**

Overview

In this section of *Hospital Report 2006*, we provide the methodology used to select and calculate the measures of financial performance and condition for inpatient rehabilitation services in 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 e-Scorecard of *Hospital Report 2006*. This document concludes with a presentation of descriptive statistics for these indicators.

Methods

Preparation of the financial and statistical measures of hospital inpatient rehabilitation services 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 inpatient rehabilitation services financial performance was undertaken during the preparation of the *Hospital Report 2003: Rehabilitation*. Articles were selected for review if they met either of the following criteria: 1) the article examined financial performance measurement issues related to inpatient rehabilitation services; or 2) the article described or discussed financial analysis of inpatient rehabilitation services.

For the *Hospital Report 2003: Rehabilitation*, an Advisory Panel of hospital executives, clinical directors, and managers with extensive knowledge of financial issues related to inpatient rehabilitation services 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 are presented in the *Hospital Report 2006 e-Scorecard*. The e-Scorecard is a Web based, password-protected electronic application incorporating annual *Hospital 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 e-Scorecard of *Hospital Report 2006*, the indicators of inpatient rehabilitation services are the same as those reported in *Hospital Report 2003: Rehabilitation* and *Hospital Report* volumes subsequent to it. These indicators are:

1. ***Percent Direct Rehabilitation Cost***
Measures the direct costs of providing nursing, diagnostic & therapeutic services, and food services, to rehabilitation clients as a proportion of the total costs associated with these clients.
2. ***Nursing Worked Hours***
Measures the proportion of time nurses spend working in the hospital on activities such as direct client care, charting, and in-service education, as a proportion of the total hours earned. The hours being measured are for those nurses who normally engage in activities related to client care, and excludes hours worked by nurses who fill management and administrative roles.
3. ***Percent UPP Nursing and Therapy Worked and Purchased Service Hours***
Measures the proportion of time nurses and therapists spend working in the hospital on activities such as direct client care, charting, and in-service education, as a proportion of the total hours earned. Unit-producing personnel (UPP) or unit-producing nurses/therapists are nurses/therapists who normally engage in activities related to client care, and excludes nurses/therapists who fill management and administrative roles.

Collecting, Organizing and Validating the Data Used

Data Sources

The data used to calculate the indicators presented here 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 a detailed examination of the OCDM applied to 2004/05 data, see MOHLTC Website www.mohltcfim.com). Financial Performance and Condition indicators of all volumes and sectors of the *Hospital Report* series use data extracted from the OHRs.

The financial data included in this report are for the 2004/05 fiscal year, which represent the most recent data available at the time of analysis. Comprehensive indicator

definitions, account codes and account definitions are provided in Appendix 1. Account descriptions have been added for completeness.

Data Quality

Although OHRS data submissions are subjected to a variety of edit routines before being added to the provincial database, inconsistencies in hospital reporting practices can create data quality issues. The ability of a hospital to address the following data quality issues may affect the consistency of indicators calculated in *Hospital Report 2006*.

- *Allocation & Reporting Issues*

A hospital's organizational structure often does not match the reporting structure in the OHRS framework, requiring hospitals to reallocate costs and activities. For example, if an inpatient rehabilitation unit manager spends one-quarter of his/her time managing an ambulatory care clinic, the OHRS requires that 75% of the manager's worked and non-worked hours be allocated to the inpatient rehabilitation unit and 25% to the ambulatory care clinic. Comparability of indicator values may be compromised if this re-allocation is not performed or is performed inconsistently.

- *Linkages with Hospital Payroll Systems*

Where a hospital payroll system cannot accurately identify professional, non-professional and unregulated staff, comparability of indicator values that rely on this distinction may be compromised.

Data Validation

One of the key objectives in producing *Hospital Report 2006* 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 inpatient rehabilitation service indicators in *Hospital Report 2006*. 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 2006* was undertaken.

The 59 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 inpatient rehabilitation service financial performance and condition. Hospitals were asked to review these reports and advise the research team of any errors in the data. In *Hospital Report 2006*, no hospitals requested changes to their 2004-2005 inpatient rehabilitation service data during or subsequent to the verification period.

System-Level Findings

Table 1 shows descriptive statistics for each of the four hospital-specific indicators of financial performance and condition for hospitals with inpatient rehabilitation services, including mean, standard deviation, and quintile values (0, 20th, 40th, 60th 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 1 – Descriptive Statistics for Hospital-Specific Indicators of Financial Performance and Condition

	Percent Direct Rehabilitation Cost	Nursing Worked Hours	Percent UPP Nursing Worked and Purchased Service Hours
Number of Hospitals	59	59	59
Mean [†]	74.1%	85.1%	85.4%
Standard Deviation	3.6%	4.5%	3.6%
0 th percentile	64.0%	69.0%	76.1%
20 th percentile	72.5%	82.7%	83.2%
40 th percentile	74.6%	84.7%	85.1%
60 th percentile	77.0%	86.2%	86.1%
80 th percentile	78.0%	87.9%	87.8%
100 th percentile	81.5%	100.0%	97.5%

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

APPENDIX 1: Rehabilitation Indicator Definitions

1. Percent Direct Rehabilitation Cost

Numerator

<i>Description</i>	<i>Data Source</i>
Direct costs associated with rehabilitation services; includes inpatient nursing, ambulatory care, nursing administration, D&T services, community services and food services, net of recoveries and adjustments.	Ontario Cost Distribution Methodology (OCDM) Net Direct Costs allocated to Rehabilitation.

Denominator

<i>Description</i>	<i>Data Source</i>
Includes Direct Cost and Overhead Costs incurred related to rehabilitation services.	Ontario Cost Distribution Methodology (OCDM) Net Direct & Overhead Costs allocated to Rehabilitation.

2. Nursing Worked Hours

Numerator

<i>Description</i>	<i>Data Source</i>
Includes worked and agency hours for nursing staff in the Rehabilitation Program.	<p>OHRS account definition: (Using Sector Codes 1*)</p> <p><i>Primary</i> 71281*</p> <p><i>Statistical Secondaries</i> 35010*, 35090*, 38010*, 38090*</p>

Denominator

<i>Description</i>	<i>Data Source</i>
Includes earned hours (worked, benefit and purchased hours) of the nursing staff who work in inpatient rehabilitation programs.	<p>OHRS account definition: (Using Sector Codes 1*)</p> <p><i>Primary</i> 71281*</p> <p><i>Statistical Secondaries</i> 350*, 380*</p>

3. Percent UPP Nursing and Therapy Worked & Purchased Service Hours

Numerator

<i>Description</i>	<i>Data Source</i>
Includes worked and purchased service hours of nursing and therapies staff who work in the Rehabilitation Program.	<p>OHRS account definition: (Using Sector Codes 1*)</p> <p>For Nursing - <u>Primary 71281*</u> and <u>Statistical Secondaries 35010*, 35090*, 38010*, 38090*</u></p> <p>For Therapies functional centers - <u>Primaries 71444* to 71490*</u>, and <u>Statistical Secondaries 35010*, 35090*</u> multiplied by % Rehabilitation calculated using Statistical Secondaries Ratio of 11612* / 116*</p>

Denominator

<i>Description</i>	<i>Data Source</i>
Includes earned hours (worked, benefit and purchased hours) of nursing and therapy staff who work in inpatient rehabilitation programs.	<p>OHRS account definition: (Using Sector Codes 1*)</p> <p>For Nursing - <u>Primary 71281*</u> and <u>Statistical Secondaries 350*, 380*</u>;</p> <p>For Therapies functional centers - <u>Primaries 71444* to 71490*</u>, and <u>Statistical Secondaries 350*</u> multiplied by % Rehabilitation calculated using Statistical Secondaries Ratio of 11612* / 116*</p>