Hospital Report 2007: Rehabilitation

Financial Performance and Condition Technical Summary

Anyk Glussich
Imtiaz Daniel
Stefan Popowycz
Yujin Jiang

Dr. Linda McGillis Hall
Dr. Ian McKillop
Dr. George Pink

Overview

In this section of *Hospital Report 2007,* 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 2007*. 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 2007* 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 2007*, 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. ***% 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. ***% Nursing and Therapy Worked 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.

Data Collection, Organization and Validation

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 2005/06 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 2005/06 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.

Changes to the OHRS

To enable informed decisions using relevant management information, the OHRS undergo annual changes. For example, in April 2005, hospitals were required to submit earned hours by occupational class. This change allows for a more detailed reporting of the earned hours of hospital staff by the type of health provider. These changes have been integrated into the OHRS definitions of two of the rehabilitation indicators (% Nursing Worked Hours and % Nursing and Therapy Worked Hours).

As hospitals increase their familiarity with these new reporting standards, it is expected that the data collected will provide a clearer depiction of the type of health providers employed within Ontario hospital rehabilitation programs.

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 2007*.

• *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 2007* 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 2007*. 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 2007* was undertaken.

The 57 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 2005-2006 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

	% Direct Rehabilitation Cost	% Nursing Worked Hours	% Nursing and Therapy Worked Hours
Number of Hospitals	58	58	58
Mean†	74.6%	85.1%	85.3%
Standard Deviation	3.5%	4.4%	3.4%
0th percentile	65.3%	74.9%	76.7%
20th percentile	72.2%	83.3%	83.7%
40th percentile	74.8%	85.1%	85.5%
60th percentile	76.9%	86.4%	86.2%
80th percentile	78.4%	88.3%	88.1%
100th percentile	80.9%	100.0%	97.3%

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

APPENDIX 1: Rehabilitation Indicator Definitions

1. *% Direct Rehabilitation Cost*

Numerator	***Data Source***
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	***Data Source***
Includes Direct Cost and Overhead Costs incurred related to rehabilitation patients.	Ontario Cost Distribution Methodology (OCDM) Net Direct & Overhead Costs allocated to Rehabilitation.

NOTE: For more information about the OCDM and your organization's OCDM values, please refer to http://www.mohltcfim.com/cms/client_webmaster/index.jsp and select 'Ontario Cost Distribution Methodology' on the left-hand menu.

2. *% Nursing Worked Hours*

Numerator	***Data Source***
Includes worked and agency hours for nursing staff in the Rehabilitation Program.	**OHRS account definition:** For sector code 1*, primary accounts 71281* and secondary statistical accounts 6351**1, 6351**2, 6381**1, 6381**2

Denominator	***Data Source***
Includes earned hours (worked, benefit and purchased hours) of the nursing staff who work in inpatient rehabilitation program.	**OHRS account definition:** For sector code 1*, primary accounts 71281* and secondary statistical accounts 6351*, 6381*

3. *% Nursing and Therapy Worked Hours*

Numerator	***Data Source***
Includes worked and purchased service hours of nursing and therapies staff who work in inpatient rehabilitation programs.	**OHRS account definition:** Using Sector Code 1*: For Nursing: Primary 71281* and Statistical Secondaries 6351**1, 6351**2, 63816*1, 63816*2 For Therapies: Primaries 71444* to 71490* and Statistical Secondaries 63511*1 - 63574*1, 63816*1, 63511*2 - 63574*2, 63816*2, multiplied by % Rehabilitation calculated using Statistical Secondaries Ratio of 11612*/116

Denominator	***Data Source***
Includes earned hours (worked, benefit and purchased hours) of nursing and therapy staff who work in inpatient rehabilitation programs.	**OHRS account definition:** Using Sector Code 1*: For Nursing: Primary 71281* and Statistical Secondaries 6351*, 63816* For Therapies: Primaries 71444* to 71490* and Statistical Secondaries 63511* - 63574*, 63816*, multiplied by % Rehabilitation calculated using Statistical Secondaries Ratio of 11612*/116

NOTE: The allocations for the therapy portions of this indicator are accomplished by first totaling the UPP hours of the specified occupational classes from all of the therapy functional centres and then multiplying the total by the ratio of rehabilitation service recipient workload to total service recipient workload reported in all therapy functional centres. These allocated therapy hours are then combined with nursing hours reported in the inpatient rehabilitation unit.