

*Hospital Report 2005: Emergency Department Care*  
**Financial Performance and Condition Technical Summary**

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## Overview

In this section of *Hospital Report 2005: Emergency Department Care* we provide the methodology used to select and calculate the measures of financial performance and condition for emergency departments. 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 measures of financial performance and condition presented in *Hospital Report 2005: Emergency Department Care*. This document concludes with a presentation of descriptive statistics for the indicators used in *Hospital Report 2005: Emergency Department Care*.

## Participating Hospitals

*Hospital Report 2005: Emergency Department Care* includes hospital-specific data for 92 of 124 hospital corporations in Ontario that provided emergency services on March 31, 2004 (the year-end date for the 2003/04 fiscal year). The following table highlights participating and non-participating hospital corporations by peer group.

Hospital Corporations	Hospital Type			Total
	Teaching	Community	Small	
# Participating	12	60	20	92
# Not Participating	1	8	23	32
<b>Total</b>	13	68	43	<b>124</b>

The aggregate results presented in the Financial Performance and Condition quadrant of *Hospital Report 2005: Emergency Department Care* include data from all 124 hospital corporations in the Province.

Since the mandate and size of a hospital affect the hospital's underlying financial structure, the Financial Performance and Condition quadrants in the *Hospital Report* series only compare hospitals with like hospitals. For example, the mandate of teaching hospitals (which includes high-end tertiary care, training of health professionals, and research) results in the underlying financial structure of teaching hospitals being fundamentally different from the structure of non-teaching hospitals. Similarly, the diseconomy of scale associated with low service volume means that the underlying financial structure of small hospitals also differs from that of large hospitals. For these reasons, the *Hospital Report 2005: Emergency Department Care* divides hospitals into three peer groupings — small, community, and teaching hospitals — defined in Appendix 1.

In this report, the term “emergency department” (ED) refers to both comprehensive EDs and urgent care centres (UCCs). Comprehensive EDs are open 24 hours a day, seven days a week and provide care to patients arriving by ambulance and by other means. UCCs are located in hospitals, but have restricted hours and do not generally care for patients arriving by ambulance.

## Methods

Preparation of the financial quadrant of *Hospital Report 2005: Emergency Department 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 inpatient rehabilitation services financial performance was undertaken during the preparation of the *Hospital Report 2003: Emergency Department Care*. Articles were selected for review if they met either of the following criteria: 1) the article examined financial performance measurement issues related to emergency department care; or 2) the article described or discussed financial analysis of emergency departments.

For the *Hospital Report 2003: Emergency Department Care*, an Advisory Panel of hospital executives, clinical directors, and managers with extensive knowledge of financial issues related to emergency department 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: Emergency Department Care*, the indicators reported were the same as those reported in *Hospital Report 2003: Emergency Department Care*. These indicators are:

- **Total Worked Hours**  
Measures the proportion of staff hours spent engaged in activities related to operation of the emergency department. Sick time and educational time are examples of staff hours (nursing and non-nursing) that are not spent engaged in activities directly related to the operation of the emergency department. Medical staff hours are excluded due to variations in physician staffing models and/or methods of physician remuneration among hospitals.

- ***Management and Operational Support Hours***  
Measures the proportion of staff hours spent engaged in activities related to managing or directly supporting the department but not directly involved in providing patient care. The activities of a unit manager or registration clerk are examples of management and operational support.
- ***Nursing Worked Hours***  
Measures the proportion of time nurses spend working in the hospital on activities such as direct patient care, charting, and in-service education, as a proportion of the total hours earned. The hours being measured are for those nursing personnel who normally engage in activities related to patient care, and excludes hours worked by nurses who fill management and administrative roles.
- ***Registered Nursing Staff Hours***  
Measures the proportion of nursing care hours that were provided by registered nurses.

## **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 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's hospitals. The Financial Performance and Condition quadrants in all volumes in the *Hospital Report* series use data extracted from the OHRS.

The financial data included in this Report are for the 2003/04 fiscal year. These data represent the most recent data available at the time of analysis. Comprehensive indicator definitions, account codes and account definitions are provided in Appendix 2 for each of the indicators reported in this quadrant. 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 this Report:

- ***Allocation & Reporting Issues***  
A hospital's internal organizational structure may not match the organizational reporting structure implicit in the OHRS framework. Hospitals compensate for these differences by mapping and re-allocating costs and activities when preparing their internal records for submission to the OHRS. For example, if an emergency department manager spends 25% of his/her time managing an ambulatory care clinic, the OHRS requires that the hospital remove 25% of this

manager’s worked and non-worked hours from the emergency department and associate these hours with the ambulatory care clinic. Data quality issues with some indicators occur if this re-allocation is not performed correctly.

- *Linkages with Hospital Payroll Systems*  
Another reporting variation can be caused by the inability of a hospital payroll system to accurately identify professional, non-professional and unregulated staff. Data quality issues occur with some indicators in situations where payroll systems are unable to make this distinction.

## **High Performing Hospitals**

For quality improvement purposes, 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. For the Financial Performance and Condition quadrant, high performing hospitals had indicator values for Total Worked Hours, Nursing Worked Hours and Registered Nursing Staff Hours that were more than one half standard deviation above the provincial average.

## **System-Level Findings**

Table 1 shows descriptive statistics for each of the four hospital-specific indicators of Financial Performance and Condition, including mean, standard deviation, and quintile values (0<sup>th</sup>, 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 1 – Descriptive Statistics for Hospital-Specific Indicators of Financial Performance and Condition

	<b>Total Worked Hours</b>	<b>Management &amp; Operational Support Staff Hours</b>	<b>Nursing Worked Hours</b>	<b>Registered Nursing (RN) Staff Hours</b>
Number of Hospitals	124	124	124	124
Mean <sup>†</sup>	86.0%	16.5%	85.8%	89.8%
Standard Deviation	4.1%	10.0%	4.4%	11.0%
0 <sup>th</sup> percentile	75.2%	0.0%	73.2%	40.3%
20 <sup>th</sup> percentile	84.3%	0.0%	83.8%	82.9%
40 <sup>th</sup> percentile	86.5%	5.5%	86.5%	90.7%
60 <sup>th</sup> percentile	88.3%	13.4%	88.6%	96.5%
80 <sup>th</sup> percentile	90.2%	19.5%	90.3%	99.9%
100 <sup>th</sup> percentile	100.0%	40.1%	100.0%	100.0%

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

# **APPENDIX 1: Emergency Department Peer Groups**

This Report includes summary findings at the peer group level for all hospitals in Ontario. It also includes results (in the insert) for hospitals that voluntarily agreed to participate. Overall, 92 acute care corporations with emergency/urgent care departments, representing 124 hospital corporations, voluntarily agreed to participate.

Data that are analyzed by hospital peer group use the following definitions;

## **Teaching**

These acute and paediatric hospitals belong to the Ontario Council of Teaching Hospitals.

## **Small**

This classification, defined by the Joint Policy and Planning Committee (JPPC), includes hospitals that generally admit fewer than 3,500 weighted cases, have a referral population of fewer than 20,000 people and are the only hospital in their community.

## **Community**

This classification includes any acute care hospital that does not fit the definition of a small or teaching hospital.

*Note:* For multi-site organizations, peer group designation was based on the size of the largest single hospital/site in the organization. For example, if five small hospitals belong to the same organization, they are included in the small hospital group; if five small hospitals and one community hospital belong to the same organization, all six hospitals/sites are included in the community hospital peer group.

## APPENDIX 2: Indicator Definitions

### 1. Total Worked Hours

#### Numerator

<b>Description</b>	<b>Data Source</b>
Emergency Department: Total worked and purchased service hours; excluding medical staff hours	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts 31010*, 31090*, 35010*, 35090*, 38010, 38090

#### Denominator

<b>Description</b>	<b>Data Source</b>
Emergency Department: Total hours include worked and purchased service and benefit hours for all staff in the department (Management and Operational Support and Unit-Producing Personnel)	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 310*, 350*, 380*

### 2. Management and Operational Support Staff

#### Numerator

<b>Description</b>	<b>Data Source</b>
Emergency Department: Management and Operational Support hours; excluding medical staff hours	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 310*

#### Denominator

<b>Description</b>	<b>Data Source</b>
Emergency Department: Total hours include worked and benefit hours for all staff in the department (Management and Operational Support and Unit-Producing Personnel)	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 310* 350*, 380

### **3. Nursing Worked Hours**

#### **Numerator**

<b>Description</b>	<b>Data Source</b>
Emergency Department: Unit-Producing Personnel worked and purchased service hours	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 35010*, 35090*, 38010, 38090

#### **Denominator**

<b>Description</b>	<b>Data Source</b>
Emergency Department: Total Unit-Producing Personnel hours	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 350*, 380

### **4. Registered Nursing Staff Hours**

#### **Numerator**

<b>Description</b>	<b>Data Source</b>
Emergency Department: Registered Nurses or Professional Unit-Producing Personnel earned hours (Full-time, Part-time and Casual Relief Professionals)	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 7285110; 7285120; 7285130

#### **Denominator**

<b>Description</b>	<b>Data Source</b>
Emergency Department: Total Unit-Producing Personnel earned hours	OHRS Data Definition: Type S Primary Accounts: 71310* Secondary Accounts: 728*