Hospital Report 2006: Acute Care
System Integration & Change Technical Summary

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Overview

Hospital Report 2006: Acute Care includes System Integration and Change (SIC) indicators in addition to the more traditional areas of performance assessment. SIC indicators assess efforts made by Ontario hospitals to evaluate the use of clinical information technology, dissemination of information, coordination of care, support of human resources, use of standardized protocols and promotion of a healthy work environment. This section of the *Acute Care Technical Summary* presents additional details of the methodology and results not provided in *Hospital Report 2006: Acute Care*.

Unlike the other three quadrants, there are few accepted standard measures in the areas captured by the SIC indicators. While some hospitals collect measures of employee skills and training, few measures of human capital and organizational learning are available through existing administrative databases. Available measures are also often unusable because variations in data coding create difficulties in comparing performance across organizations. Thus, the indicators used in the SIC quadrant of *Hospital Report 2006: Acute Care* were derived from the *2006 Acute Care SIC survey*.

For each SIC indicator, this *Acute Care Technical Summary* provides a detailed description of the calculations used to arrive at indicator values and performance categories for participating hospitals. In addition, data on the distribution of scores for each indicator are provided for the province as a whole, as well as for teaching, community and small hospital groups individually.

Methodology

The following sections describe the methodology used to identify indicators for *Hospital Report 2006: Acute Care,* including the modification of the survey instruments, addition of new questions and sections, the data collection process, a description of how each indicator was constructed and the process used to determine the 3-scale performance categories in *Hospital Report 2006: Acute Care*.

Development of the 2006 Acute Care System Integration and Change Survey

For this year's survey an effort was made to reduce the number of questions and the response burden to hospitals by reviewing the questions in last year's survey. Questions were considered for removal if they met one of the following criteria:

1. Questions not being used in an indicator calculation
2. Questions with potential problems with interpretation as indicated by low response rates and frequently asked questions from respondents
3. Questions that were being addressed in one of the new sections.

Other changes were made to improve the survey such as: re-wording to help clarify the questions and regrouping similar questions.

Last year, the SIC survey for Acute Care was divided into two separate survey instruments, Corporate and Acute Care. Each contained the following four sections: Management of Human Resources, Investments in Intellectual and Information Resources, Use and Dissemination of Information for Decision-Making and Internal and External Integration of Care. This year, the two survey instruments were combined into one survey instrument containing the same four sections.

The Healthy Work Environment section was modified from the survey sent in September 2004 to all participating hospitals. Questions were revised with an aim to better distinguish best practices for supporting and promoting a healthy work environment.

Three new sections were added to this year's Acute Care survey instrument: Patient Safety, Access to Care and Ambulatory Care Services. The development of each of these three sections is described below.

Patient Safety:

The questions on the Patient Safety section of the SIC survey were selected from a set of established indicator questionnaires including the Ontario Hospital Association Patient Safety Questionnaire, the Canadian Adverse Events Hospital Survey and the CCHSA survey. The questions were modified and the questionnaire circulated for comment to a team of experienced quality improvement/patient safety specialists. The questionnaires were revised based on the feedback received from the field. The Patient Safety indicators were based on a selection of questions that represent two groupings of similar items i.e. Patient Safety Reporting and Analysis and Patient Safety Culture.

Access to Care:

Quality of care is generally thought to be reflected in a combination of indicators, which can be structure indicators (related to the organization of services); process indicators (services and procedures); and outcome indicators (the result of care). For this section, the researchers were most interested in availability (human resources, technology, i.e. structure indicators) and accommodation (organization and delivery of services, i.e. process indicators). So as to be consistent with provincial priorities, they chose to include predictors of hospital wait times related to the following areas of care, or strategies that hospitals employ to improve access to any of these services: cardiac care, hip and knee replacement, general surgery, cataract surgery, diagnostics (CT, MRI, endoscopy, etc). Oncology was excluded, as it was the mandate of another organization.

Similar to the work that has been done with all other indicator development, this section included a substantial literature review. A modified Delphi approach was used in the development of access indicators. An expert panel was assembled and invited to complete a survey, which asked them to prioritize the selected indicators according to certain criteria. The panel was convened for a one-day meeting to review the indicators selected and prioritized from the survey. Panelists then completed a second-round survey where they were asked to rank the indicators accordingly. After discussions with Hospital Report investigators and feasibility tests, the only indicators that could be measured were within the SIC quadrant. The SIC survey was sent to all hospitals participating in this year's report. After a review of the results from the survey, researchers concluded that there was

no reliable data to report on access to care indicators in 2006. However, a summary snapshot of findings will be published on the *Hospital Report* website.

Ambulatory Care Services:

In developing the questions for the Ambulatory Care Services section, it focused on traditional ambulatory care clinics (discrete cost centres funded within the global budgets of hospital corporations) and did not include those services delivered in a community setting. The researchers excluded areas that HRRC already measured in other reports (Day Surgery, Emergency Care, Mental Health, etc). A modified Delphi approach was used in the development of the ambulatory care indicators. An expert panel consisting of hospital managers, CNOs and CFOs was assembled and invited to complete a survey, which asked them to prioritize the selected indicators according to certain criteria. The panel was convened for a one-day meeting to review the indicators selected and prioritized from the survey. Panelists then completed a second-round survey where they were asked to rank the indicators accordingly. The indicators that were chosen represented all quadrants of the balanced scorecard although, after feasibility testing, indicators of Financial Performance and Condition could not be included in this years report. The researchers constructed the ambulatory care clinics indicators and components for the SIC quadrant based on the results of the survey. A summary snapshot of findings not included in the selected SIC indicators will be published on the *Hospital Report* website.

Online Surveys:

In an effort to improve data quality and timeliness and reduce mailing and printing costs, we are working towards having the entire SIC survey available online for 2007. Moving toward this goal an advisory panel consisting of 22 hospital report contacts pilot tested the submission of an online Healthy Work Environment questionnaire and provided feedback regarding the online process.

In addition to the online Healthy Work Environment survey, an online Board Governance Survey: Policies and Practices was sent to participating hospital's board chairs via email. This survey was designed to measure whether organizations were directed, controlled and held accountable to specific structures and processes within the organization.

Board Governance:

Following a literature review from the peer-reviewed and grey literature, researchers identified 80 separate board policies and practices described either in case studies published online or in a journal publication. Examples were taken from the private and public sector and were associated with one of the essential characteristics of the Pointer and Orlikoff model, which distinguishes between board roles and responsibilities. Board roles include policy formulation, decision-making and oversight across five discrete domains of responsibility: responsibility for organizational ends; responsibility for executive management performance; responsibility for quality; responsibility for finances; and responsibility for the board itself.[1] Given the rapid evolution of potential best practices in board governance, the online literature comprised a majority of the practice examples.

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[1] Pointer, D.D., Orlikoff, J.E., *Board Work: Governing Health Care Organizations*. San Francisco: Jossey Bass Inc., 1999.

Corporate governance advisors familiar with the Ontario hospital context individually ranked the 80 identified measures against the following criteria:
(a) Actionability – "The practice/policy under consideration is under the control of Ontario hospital boards"
(b) Quality – "This practice/policy is a useful measure of the quality of hospital corporate governance in Ontario"
(c) Utility – "Hospital boards would find reports comparing the rate of use for this practice useful for benchmarking."

Responses were scored. This process produced 34 binary yes/no questions reflective of potential best practices as determined by a consensus among the experts. In the survey tool, the questions were divided into eight sections including: board composition, nomination and succession; responsibilities and processes of the board and board committees; audit committee characteristics; responsibilities and activities of the board Chair and directors; code of conduct and board ethics; board orientation and professional development practices; director assessment processes; and board information and communication. To reduce ambiguity, scale questions (e.g., "this practice is under consideration/development") were not included.

Researchers at the Canadian Institute for Health Information (CIHI) and the University of Toronto's Hospital Report Research Collaborative (HRRC) sent the survey and accompanying instructions via electronic mail (e-mail) to hospital board Chairs at 122 Ontario general acute care hospital corporations in November, 2005. Hospital CEOs were notified by a separate letter, also sent electronically, describing the nature of the survey. Board Chairs were given four weeks to complete the survey online through a secure system (Survey Monkey™), and were advised that full summaries of individual hospital results would not be reported but that a "snapshot" of overall provincial, local health integration network (LHIN), and peer group breakdowns (based on the 2005 Joint Policy and Planning Committee formula) of some of the data would be reported in *Hospital Report 2006: Acute Care*, and potentially in subsequent journal publications. Respondents were also afforded the opportunity to complete a hard copy version of the survey. Follow-up calls and emails were sent to non-respondents one week after the deadline, and these respondents were permitted an additional one to two weeks to complete the survey.

For a response rate of 86.8% (106/122), survey respondents included 110 board Chairs (or, in two cases, officers acting as designates of the Chair) representing 106 separate acute care hospital corporations in Ontario. (Three multi-site hospitals chose to respond individually, explaining the discrepancy in the numerator). Hospitals with multiple boards were given the opportunity to respond as one entity or as distinct boards; in the rare instances where there were variations in sub-board responses, scores on individual question elements were averaged among the sites to reflect an aggregate score for the hospital (e.g. 2/3 "yes" responses = "yes").

Describing the 2006 Hospital Report: Acute Care System Integration and Change Survey

In total, the *2006 Acute Care SIC survey* incorporated the following eight sections:

- Management of Human Resources
- Investments in Intellectual and Information Resources
- Use and Dissemination of Information for Decision-Making
- Internal and External Integration of Care
- Healthy Work Environment ***(revised)***
- Patient Safety ***(new)***
- Access to Care ***(new)***
- Ambulatory Care Services ***(new)***

There were a total of 77 questions in this year's SIC survey.

Describing the Survey Process

The SIC survey was compiled and sent to 122[2] Ontario acute care hospitals in mid October 2005. In total, 109 hospitals completed and returned the surveys for a response rate of 89%. 95 of 109 hospitals voluntarily agreed to participate at a hospital-specific level in this year's report. Therefore, participating hospitals have hospital-specific data included in the performance allocation tables and may be identified as top performing hospitals within or among quadrants in *Hospital Report 2006: Acute Care*.

A hard copy of the *2006 Acute Care SIC survey* was distributed to the hospital report contact at each organization. However, given the length of the survey and to minimize burden on survey respondents, the research team requested that each section should be filled out by the person in the organization who possesses the most knowledge about topics covered in that section.

In addition to the paper survey, the *2006 Acute Care SIC survey* included two online surveys this year. Both the Healthy Work Environment online survey and online Board Governance Survey: Policies and Practices were sent in mid November 2005.

Hospitals were given approximately six weeks to complete the hard copy and online surveys. One month after the initial distribution of surveys, follow-up telephone calls were made to hospital report contacts that had not returned the surveys. Reminder notices were sent two weeks after the follow-up calls to hospitals that had not yet responded. All of the hospitals participating in the hospital-specific portion of *Hospital Report 2006: Acute Care* completed and returned a survey and 52% of system-wide hospitals also completed surveys (compared to 40% in *Hospital Report 2005: Acute Care*). Thirteen hospitals did not return surveys. Responses, by hospital type, are presented below.

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[2] While other quadrants in *Hospital Report 2006: Acute Care* include 123 organizations, the *2006 Acute Care SIC survey* was sent to 122 organizations due to reorganization that occurred prior to the survey process at Hotel Dieu Health Sciences, Niagara.

Table 1.1: SIC Surveys Returned

	Surveys Returned		Surveys Not Returned		Total
	Hospitals Participating in Hospital-Specific Results	System-wide Hospitals	Hospitals Participating in Hospital-Specific Results	System-wide Hospitals	
Teaching	12	1	0	0	13
Community	62	3	0	1	66
Small	21	10	0	12	43
All Hospitals	95	14	0	13	122

Data Quality

The indicators for this quadrant are based on hospital survey data that are inevitably subject to a "social desirability bias". That is, consciously or unconsciously, respondents may answer questions in a way that puts their organization in the best possible light. To counteract this bias, an effort was made to construct survey questions that focused on specific behaviours rather than attitudes. Despite this focus, opportunities remained for varying interpretations, and some degree of interpretation may still be reflected in answers to many of the questions.

Once data were received, CIHI performed data entry and data quality checks to ensure that the data were accurate and reflective of the circumstances in hospitals. A template identical to the survey was developed in a secured database. Data from each survey were entered by two separate people, and then the two entries were compared. If there were discrepancies, the original paper survey was assessed and the dataset was corrected. If a hospital responded in a "check all that apply" style but the question indicated, "check only one answer", the highest value was recorded. All questions with missing data or contradictory responses were flagged for follow-up. Phone calls and emails to inquire about missing information on questions or responses that needed further clarification were made to the hospital report contact. Deadlines, approximately two weeks in length, were emphasized in order to receive the information within an appropriate timeframe. Two programmers developed SAS code for the indicator calculations independently of each other and the values attained were identical. Once the SIC indicator scores were produced, random manual checks of hospitals' scores were done by examining the original surveys to ensure a high level of reliability.

Developing the Indicators

The ten SIC indicators used in *Hospital Report 2006: Acute Care* are:

1. Use of Clinical Information Technology
2. Use of Data for Decision-Making
3. Use of Standardized Protocols

4. Community Involvement and Coordination of Care
5. Management and Support of Human Resources
6. Healthy Work Environment ***(revised)***
7. Patient Safety Reporting and Analysis ***(new)***
8. Promoting a Patient Safety Culture ***(new)***
9. Strategies to Manage the Waiting Process in Ambulatory Care Clinics ***(new)***
10. Performance Management in Ambulatory Care ***(new)***

Performance classification was not assigned to new indicators. They are reported at a provincial level only this year. Hospital-specific data for these indicators are available to hospitals in the e-Scorecard.

Once the surveys were received by all hospitals and the data entry was completed, the process of confirming the questions to be used in the SIC indicator calculations for *Hospital Report 2006: Acute Care* began. Response distributions were calculated for each question in the *2006 SIC Acute Care survey*. Questions that had more than 10% of missing answers and/or elicited a number of queries from respondents about instruction for completion were considered for exclusion in the construction of indicators, as these were indicative of potential problems with interpretation. An advisory panel was not used this year in determining the six indicators that are reported at a hospital-specific level because most of the same questions were used to calculate last year's indicators.

During the 2006 survey redevelopment process, slight modifications were made to *Hospital Report 2006*: *Acute Care* SIC indicators. This required some changes to the indicator calculations. Please see Appendix A for further details.

Comparability of Indicator Results

Minor or no changes were made to five of the existing indicators, therefore, year-over-year comparisons can be made in specific areas for the following indicators: Use of Clinical Information Technology, Use of Data for Decision-Making, Use of Standardized Protocols, Community Involvement and Coordination of Care and Management and Support of Human Resources. The only indicator that has significantly changed from last year is the Healthy Work Environment indicator. Caution should be taken when comparing this indicator with last year's results.

Scoring of the Indicator

A detailed description of the questions used in *Hospital Report 2006: Acute Care* and points allocated in the construction of each of the six indicators is provided below. To calculate the indicator score, each question must be multiplied by the specified weighting. For example:

Hospital A received 18 points for Question X out of a possible total of 25 points. To calculate the contribution of this question to the indicator score, divide hospital A's score (18) by the total possible points (25) and multiple by the specified weighting for Question X (23%). Therefore, hospital A received 16.56% of the total indicator score for question X.

The weights for each question are provided in tables at the end of each indicator (see below). The weighted scores are then summed for each question to get the overall score for that component of the indicator. For example:

Component Score =

$$\left\{\left(\frac{HospitalQuestionScore}{MaximumQuestionScore}\times QuestionWeight\right)+\left(\frac{HospitalQuestionScore}{MaximumQuestionScore}\times QuestionWeight\right)+...\right\}$$

The overall indicator scores are then calculated by summing the scores for each component. When a question is not applicable to a hospital, the question is removed from the denominator for that component. However, it is possible for an entire component to be not applicable to some hospitals (e.g. Section 3, Question 28 for *Indicator 2: Use of Data for Decision-Making*). When this happens, the overall indicator score is calculated by re-weighting the sum of the remaining component scores out of 100. For example:

Hospital B did not have a score for the Clinical Data Dissemination and Benchmarking Component (Section 3, Question 28) of Indicator 2: Use of Data for Decision-Making. Therefore, hospital B's scores for the five components of this indicator were as follows:

Clinical Data Dissemination and Benchmarking: NA out of a maximum of 16
Safety and Utilization Management: 18 out of a maximum score of 25
Staff Information-Based Roles: 15 out of a maximum score of 20
Dissemination of Information: 10 out of a maximum score of 19
Benchmarking of Information: 16 out of a maximum score of 20

The overall score for hospital B would then be:
[(18+15+10+16) / (100-16)]*100

Indicator 1: Use of Clinical Information Technology

The Use of Clinical Information Technology indicator was constructed to reflect the degree to which clinical information is available electronically to care providers inside and outside of the organization. It is based on one question from section 1 and five questions from section 2 of the *2006 Acute Care SIC survey*.

Component 1: Use of Information Technology (53%)

Section 1, Question 7: This question inquired about the existence of staff roles currently within the organization. For the role of telehealth/videocare coordinator, hospitals were given 1 point if they indicated that the role was under development and 2 points if the role was permanent in the organization. For some organizations, the permanence of this staff role may have been attempted or reviewed and found to be not applicable. Therefore, in order to avoid penalizing those organizations where this role was not applicable after being reviewed, this question was removed from the component. This question was out of a total of 2 points.

Section 2, Question 17: Organizations were asked to indicate the extent to which electronic records and data were currently being used as a primary source of information in the organization. For eight of the items (patient visit registration information (e.g. ADT systems), diagnostic imaging reports, electronic medical images, diagnostic laboratory results, patient-based pharmacy/drug profiles, nursing clinical documentation, physician clinical documentation and clinical documentation by other health professionals), respondents indicated whether records were: all paper (0), electronic as the primary source and used in acute care (1), electronic as the primary source and used in acute care and remote access is possible (1.5). The number in brackets represents the number of points given for each response. The total point allocation for this question was 12 points.

Section 2, Question 18: Ten functions were listed in this question but only the first nine functions were used in the calculation (e.g. The function 'giving/receiving consultation by videocare' was excluded from the calculation). Organizations were asked to indicate whether acute patient-care staff are currently able to perform each of the nine functions online in real time. Specifically, organizations were asked whether each of the functions: could not be performed online in real-time by acute patient-care staff (0), or could be performed online in real time by acute patient-care staff (1). The number in brackets represents the number of points given for each response. The total point allocation for this question was 9 points.

Component 2: Access to Information Technology (47%)

Section 2, Question 19: Organizations were asked to indicate the extent to which their clinical workstations currently had access to a number of different applications. For the five items, respondents indicated the percent of clinical workstations that had each application: none (0), few or <25% (1), some or 25-75% (2) and most or 75%+ (3). The number in brackets represents the number of points given for each response. The total point allocation for this question was 15 points.

Section 2, Question 20: Organizations were asked to indicate the extent to which physicians, nurses, other regulated health professionals on staff and unregulated patient care staff currently had a hospital-supplied internal email address, on-site access to corporate intranet, online access to real time monitoring data, and online access to medical images. For each of the four items, respondents indicated the percent of physicians, nurses, other regulated health professionals on staff and unregulated patient care staff had these items: none (0), few or <25% (1), some or 25-75% (2), and most or 75%+ (3). The number in brackets represents the number of points given for each response. The total point allocation for this question was 42 points.

Section 2, Question 21: Organizations were asked to indicate the total number of desktop computers or workstations that are currently available for staff. An index was developed by first dividing the total number of desktop computers or workstations by total full-time hospital employees (the number of full-time employees was determined from the headcount for each staff group, except physicians, provided in Section 1, Question 5). This value was then divided by the maximum index value from *Hospital Reports 2002: Acute Care* (1.69). This maximum value was 20% greater than the highest value attained in 2002 by a

hospital once the outliers were removed. Twenty percent was chosen so that hospitals could improve their values over time while the denominator stayed constant so that this question could be compared in future years. This does not alter a hospital's performance allocation as performance allocations are relative to other hospitals.

Table 1.2: Use of Clinical Information Technology Indicator Summary

Question	Total Possible Points	Weighting
Component 1: Use of Information Technology (53%)		
Section 1, Question 7	2 (max)	10%
Section 2, Question 17	12	23%
Section 2, Question 18	9	20%
Component 2: Access to Information Technology (47%)		
Section 2, Question 19	15	16%
Section 2, Question 20	42	15%
Section 2, Question 21	1.69	16%
Total Score		100%

Indicator 2: Use of Data for Decision-Making

The Use of Data for Decision-Making indicator was constructed to reflect the extent to which an organization is disseminating and utilizing both administrative and clinical data. It is based on one question from section 1, one question from section 2, five questions from section 3 and six questions from section 6.

Component 1: Clinical Data Dissemination and Benchmarking (16%)

Section 3, Question 28: Fifteen clinical measures were listed in this question and organizations indicated whether they were currently collecting data in each of these areas and, if so, how widely data was collected and the degree to which the data was shared and benchmarked. If the organization was collecting data, they were asked whether they engaged in certain behaviours. For each of the clinical measures for which data was being collected, there were 5 possible points: (1 point) for sharing data with a senior medical staff group/ group responsible for quality of care issues, (2 points) for comparing internally across specialties and/or to past performance either less than once per quarter or at least once per quarter and (2 points) for collecting and comparing externally with other organizations. It is possible that some of these measures do not apply to all hospitals. For example, three of the measures relate to surgical procedures alone and some hospitals could indicate they had less than 50 surgical cases. To avoid penalizing hospitals that had fewer than 50 surgical cases, responses for three measures (unplanned return to OR, unplanned injury or unplanned repair of organ during surgery, percent surgery/procedures completed on scheduled day of procedure) were removed from the calculation of their indicator score. If a hospital indicated that their organization did not have an ICU/CCU, responses to unplanned transfer to ICU/CCU were removed from the calculation. The total point allocation for this question was 75 points. If organizations had less than 50 surgical cases AND did not have an ICU/CCU, this component was removed from the indicator.

Component 2: Safety and Utilization Management (25%)

Section 6, Question 49c: Organizations were asked whether the hospital's reporting system for actual and potential adverse events was recorded by written submission on standardized form (0.5 point) or via electronic submission (1 point). The total point allocation for this question was 1 point.

Section 6, Question 49d: This question asked whether or not the hospital maintained a registry of all sentinel events. Organizations that maintained a registry received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 49f: Organizations were asked if they conducted at least one patient safety-related prospective analysis per year and implemented appropriate improvements or changes. Organizations with a fully implemented plan received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51e: Organizations were asked whether or not a strategy of having a designated 'patient safety officer' who promotes action through training of staff & implementation of methods, assumes responsibility for monitoring implementation of recommendations subsequent to patient safety assessment and reports back to a patient safety steering committee was used to improve patient safety within the hospital. If there was a patient safety officer in specific departments only, hospitals were given 0.5 points. If this strategy was hospital-wide, organizations received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51l: This question asked whether a hospital had an adverse event team/patient safety steering committee that was committed to a culture of support and provided 24 hour coverage to all adverse events to mitigate harm to the patient and prevent further harm. If a hospital specified this was in specific departments only, they received 0.5 points, and if this was a hospital-wide strategy, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 52d: This question asked whether the hospital's routine incident reporting system in the hospital was best described as paper based (0.5 points) or electronic (1 point). The total point allocation for this question was 1 point.

Section 3, Question 33: This question asked organizations to indicate which utilization management strategies, if any, were currently being employed in the hospital. Hospitals received one point for each of the seven strategies they used within the organization. The total point allocation for this question was 7 points.

Component 3: Staff Information-Based Roles (20%)

Section 1, Question 7: This question inquired about the existence of staff roles currently in the organization. For four roles (utilization review analyst, quality and/or risk management analyst, decision support role, and infection control practitioner), hospitals were given 1

point if they indicated that the role was under development and 2 points if the role was permanent in the organization. For some organizations, a specific staff role may have been reviewed and determined to be not applicable. Therefore, in order to avoid penalizing those organizations where that role was not applicable after reviewing, the denominator of this question was adjusted to include only those staff roles that were applicable. The maximum point allocation for this question was 8 points.

Section 2, Question 16b: This question asked about participation in continuing education activities for staff. There were five staff groups listed but only physicians with administrative roles, nurses and other regulated health professionals on staff were used in the calculation of this indicator. For six items (quality improvement, clinical management, research activities/skills, identifying and managing adverse events, infection control and utilization management) respondents were asked to indicate the percent of staff who participated in these programs/activities: none (0), few or <25% (1), some or 25-75% (2) and most or 75%+ (3). The number in brackets represents the number of points given for each response. The total point allocation for this question was 54 points.

Component 4: Dissemination of Information (19%)

Section 3, Question 23 and 24: Both questions asked how organizations disseminated employee satisfaction results. Question 23 asked which strategies were currently in use to disseminate employee satisfaction results among different groups in the organization. For each staff group, one point was given for having indicated that an internal written report is circulated about key highlights, and three points were given for indicating either a verbal presentation and discussion of results OR reviewing results beyond the initial verbal presentation. The total point allocation for question 23 was 32 points.

In question 24, organizations were given points for using additional strategies to disseminate employee feedback by indicating that a hospital website (1), bulletin board (1) and newsletter/electronic mail (1) were also used. The number in brackets represents the number of points given for each response. The total point allocation for question 24 was 3 points. The combined total point allocation for question 23 and 24 was 35 points.

Section 3, Question 27: This question asked how changes made as a result of patient satisfaction findings were disseminated amongst different groups in the organization. For all 8 groups, organizations received one point if an internal written report is circulated, and three points if they indicated that they use a verbal presentation and discussion of results OR that results were reviewed beyond the initial verbal presentation. The total point allocation for this question was 32 points.

Component 5: Benchmarking of Information (20%)

Section 3, Question 25: This question asked if organizations were currently engaged in external benchmarking practices where they compared physician and employee satisfaction data across two or more external organizations. For this question, one point was awarded for responding affirmatively to external benchmarking for any of the five staff groups. The

total point allocation for this question was 5 points.

Table 1.3: Use of Data for Decision-Making Indicator Summary

Question	Total Possible Points	Weighting
Component 1: Clinical Data Dissemination and Benchmarking (16%)		
Section 3, Question 28	75 (max)	16%
Component 2: Safety and Utilization Management (25%)		
Section 6, Question 49c	1	14%
Section 6, Question 49d	1	
Section 6, Question 49f	1	
Section 6, Question 51e	1	
Section 6, Question 51l	1	
Section 6, Question 52d	1	
Section 3, Question 33	7	11%
Component 3: Staff Information-Based Roles (20%)		
Section 1, Question 7	8 (max)	9%
Section 2, Question 16b	54	11%
Component 4: Dissemination of Information (19%)		
Section 3, Question 23 and 24	35	10%
Section 3, Question 27	32	9%
Component 5: Benchmarking of Information (20%)		
Section 3, Question 25	5	20%
Total Score		100%

Indicator 3: Use of Standardized Protocols

The Use of Standardized Protocols indicator was constructed to reflect the degree to which organizations are developing and using standardized protocols in a broad range of relatively common conditions and procedures. This indicator is based on two questions from section 3 of the *2006 Acute Care SIC survey*.

Component 1: Development of Standardized Protocols (50%)

Section 3, Question 29: Organizations were asked to indicate the extent to which standardized protocols (e.g. clinical practice guidelines, care pathways, etc) were currently developed and in use for eight conditions (asthma, stroke, AMI, pneumonia, gastrointestinal bleed, gastroenteritis, diabetes, and heart failure) and five procedures (caesarean section, prostatectomy, cholecystectomy, hysterectomy, and carpal tunnel release surgery). For each area except carpal tunnel release surgery, respondents were given points if: a standardized protocol is being developed and will be implemented in the next 6 months (1); few patients (<25%) were being cared for using the standardized protocol (2), some patients (25-50%) were being cared for using the standardized protocol

(3), or most patients (>75%) were being cared for using the standardized protocol (4). Since certain hospitals do not provide obstetrical services, and because very small hospitals may not see any patients with the conditions identified, not all these 12 areas (7 conditions and 5 procedures) necessarily apply to every hospital. CIHI discharge abstract database (DAD) data from 2004/2005 were used to identify hospitals with fewer than 12 cases in any of these 12 areas. For those low-volume hospitals, a score was not calculated for the applicable condition or procedure. Organizations had to have valid scores for at least 2 out of the 12 conditions and procedures to be given an overall score. The maximum point allocation for this question was 48 points, however, it is possible for hospitals to have different denominators.

Table 1.4: Case Selection for the Development and Use of Standardized Protocols Indicator

Medical Patient Group	ICD-10-CA Codes Used to Select Cases	CCI Codes Used to Select Cases
Asthma	J45.^	
Stroke	I61.^, I64, I63.0, I63.1, I63.2, I63.3, I63.4, I63.5, I63.8, I63.9, I67.2, I67.4, I67.6, I67.7, I67.8, I67.9	
Acute myocardial infarction	I21.^, I22.^	
Diabetes	E10.^, E11.^, E13.^, E14.^	
Caesarean section	Z38.01, Z38.31, Z38.61, Z38.63, Z38.65, Z38.67, Z38.69	5.MD.60.^^
Pneumonia	J12.^, J13, J14, J15.^, J16.^, J18.^	
Prostatectomy		1.QT.59.^^, 1.QT.87.^^
Cholecystectomy		1.OD.89.^^
Hysterectomy		1.RM.87.^^, 1.RM.89.^^, 1.RM.91.^^
Gastrointestinal bleed	K92.0, K92.1, K92.2, K25.0, K25.2, K25.4, K25.6, K26.0, K26.2, K26.4, K26.6, K27.0, K27.2, K27.4, K27.6, K28.0, K28.2, K28.4, K28.6	
Heart Failure	I26.0, I27.9, I50.0, I50.1, I50.9	
Gastroenteritis	K52.^	

Component 2: Development Involvement with Other Organizations (50%)

Section 3, Question 30: If organizations indicated in Question 29 that a standardized protocol was currently developed for a given clinical area AND at least a "few" patients were cared for using the protocol, organizations were asked to indicate if the standardized protocols included aspects of care and/or was developed in conjunction with other health care organizations external to the hospital. Appropriate health care organizations are indicated in table 1.6. The total point allocation for this question was 42 points. It is

possible for a hospital to have a smaller denominator for this question. The maximum value for a specific clinical area was removed from the denominator if there were fewer than 12 cases for the procedure or condition at the hospital. Organizations had to have at least 12 cases in 2 or more procedures to be given an overall score.

Table 1.5: Clinical Areas and Appropriate Health Care Organizations

<table>
<tr><th>Clinical Area</th><th colspan="6">Appropriate Health Care Organizations</th></tr>
<tr><th></th><th>Other Acute Care Hospitals</th><th>Primary Care Providers</th><th>CCAC</th><th>Complex Continuing Care Hospitals</th><th>Long-Term Care Facilities</th><th>Rehab Facilities</th></tr>
<tr><td>Stroke</td><td></td><td></td><td>NA</td><td></td><td></td><td></td></tr>
<tr><td>Pneumonia</td><td></td><td></td><td>NA</td><td></td><td></td><td></td></tr>
<tr><td>Diabetes</td><td></td><td></td><td>NA</td><td></td><td></td><td></td></tr>
<tr><td>Heart Failure</td><td></td><td></td><td>NA</td><td></td><td></td><td></td></tr>
<tr><td>Gastrointestinal Bleed</td><td></td><td></td><td>NA</td><td></td><td>NA</td><td></td></tr>
<tr><td>Gastroenteritis</td><td></td><td></td><td>NA</td><td>NA</td><td></td><td></td></tr>
<tr><td>Asthma</td><td></td><td></td><td>NA</td><td colspan="2">NA</td><td></td></tr>
<tr><td>AMI</td><td></td><td></td><td>NA</td><td colspan="2">NA</td><td></td></tr>
<tr><td>Caesarean Section</td><td></td><td></td><td>NA</td><td colspan="3" rowspan="4">NA</td></tr>
<tr><td>Prostatectomy</td><td></td><td></td><td>NA</td></tr>
<tr><td>Cholecystectomy</td><td></td><td></td><td>NA</td></tr>
<tr><td>Hysterectomy</td><td></td><td></td><td>NA</td></tr>
</table>

Table 1.6: Development and Use of Standardized Protocols Indicator Summary

Question	Possible Points	Weighting
Component 1: Development of Standardized Protocols (50%)		
Section 3, Question 29	Maximum of 4 points for each clinical area with at least 12 cases (Maximum = 48)	50%
Stroke	4 (if ≥ 12 cases)	
Pneumonia	4 (if ≥ 12 cases)	
Diabetes	4 (if ≥ 12 cases)	
Heart Failure	4 (if ≥ 12 cases)	
Gastrointestinal Bleed	4 (if ≥ 12 cases)	
Gastroenteritis	4 (if ≥ 12 cases)	
Asthma	4 (if ≥ 12 cases)	
AMI	4 (if ≥ 12 cases)	
Caesarean Section	4 (if ≥ 12 cases)	
Prostatectomy	4 (if ≥ 12 cases)	
Cholecystectomy	4 (if ≥ 12 cases)	

Question	Possible Points	Weighting
Hysterectomy	4 (if ≥ 12 cases)	
Component 2: Development Involvement with Other Organizations (50%)		
Section 3, Question 30	Maximum = 42	50%
Stroke	5 (if ≥ 12 cases)	
Pneumonia	5 (if ≥ 12 cases)	
Diabetes	5 (if ≥ 12 cases)	
Heart Failure	5 (if ≥ 12 cases)	
Gastrointestinal Bleed	4 (if ≥ 12 cases)	
Gastroenteritis	4 (if ≥ 12 cases)	
Asthma	3 (if ≥ 12 cases)	
AMI	3 (if ≥ 12 cases)	
Caesarean Section	2 (if ≥ 12 cases)	
Prostatectomy	2 (if ≥ 12 cases)	
Cholecystectomy	2 (if ≥ 12 cases)	
Hysterectomy	2 (if ≥ 12 cases)	

Indicator 4: Community Involvement and Coordination of Care

The Community Involvement and Coordination of Care indicator was constructed to reflect the degree of coordination of an organization, both internally and externally (with other care providers and the community). This indicator consists of one question from section 1, two questions from section 3 and four questions from section 4.

Component 1: Communication and Coordination with the Community (57%)

Section 4, Question 35: This question asked organizations if they currently have community advisory groups. Hospitals received one point for indicating in Part A that they did have community advisory groups, and a second point for indicating in Part B that the community advisory group existed at the program level. The total point allocation for this question was 2 points.

Section 4, Question 37a: Three corporate strategies were listed in this question and organizations indicated whether they currently participated in any of them with specific health care organizations. Hospitals were given 1 point for participating in any strategy with any of the 8 external groups. The total point allocation for this question was 24 points.

Section 3, Question 30: If organizations indicated in Section 3, Question 29 that a standardized protocol was currently developed for a given clinical area AND at least a "few" patients were cared for using the protocol, organizations were asked to indicate if the standardized protocols included aspects of care and/or was developed in conjunction with other health care organizations external to the hospital. Appropriate health care organizations are indicated in table 1.6 (see *Indicator 3: Use of Standardized Protocols*). The total point allocation for this question was 42 points. It is possible for a hospital to

have a smaller denominator for this question. The maximum value for a specific clinical area was removed from the denominator if there were fewer than 12 cases for the procedure or condition at the hospital. As with Question 29, organizations had to have valid scores for at least 2 out of the 12 conditions and procedures to be given an overall score.

Section 4, Question 37b: This question inquires about nine specific corporate strategies that organizations participate in with other health care organizations. Hospitals were given two points for each corporate strategy undertaken with other acute care hospitals, CCACs and LTC facilities. For each corporate strategy with community-based service agencies, mental health facilities, cancer centres, public health departments, primary care providers and rehabilitation facilities, hospitals were awarded one point. The total point allocation for this question was 108 points.

Component 2: Coordination within the Hospital (43%)

Section 1, Question 7: This question inquired about the existence of staff roles currently within the organization. For six roles (patient flow coordinator, patient advocate/ombudsperson, volunteer coordinator, case manager, social worker and designated staff who addresses equity issues), hospitals were given 1 point if they indicated that the role was under development and 2 points if the role was permanent in the organization. For some organizations, a specific staff role may have been reviewed and found to be not applicable. Therefore, in order to avoid penalizing those organizations where that role was not applicable after reviewing, the denominator of this question was adjusted to include only those staff roles that were applicable. The maximum point allocation for this question was 12 points.

Section 4, Question 34: Three internal governance practices were listed in this question and organizations indicated the percent of the non-managerial staff that were currently involved in these practices. For each staff group, hospitals were given one point if a few (<25%) participated in any strategy, two points if some (25-75%) participated and 3 points if most (>75%) participated. The total point allocation for this question was 36 points.

Section 3, Question 29: Organizations were asked to indicate the extent to which standardized protocols (e.g. pre-printed orders, clinical practice guidelines, care pathways) were currently developed and in use for eight conditions (asthma, stroke, AMI, pneumonia, gastrointestinal bleed, gastroenteritis, diabetes, and heart failure) and five procedures (caesarean section, prostatectomy, cholecystectomy, hysterectomy, and carpal tunnel release surgery). For each area except carpal tunnel release surgery, respondents were given points if: a standardized protocol is being developed and will be implemented in the next 6 months (1); few patients (<25%) were being cared for using the protocol (2), some patients (25-50%) were being cared for using the standardized protocol (3), or most patients (>75%) were being cared for using the standardized protocol (4). Because certain hospitals do not provide obstetrical services, and because very small hospitals may not see any patients with the conditions identified, not all these 12 areas (7 conditions and 5 procedures) necessarily apply to every hospital. CIHI discharge abstract database (DAD)

data from 2004/2005 were used to identify hospitals with fewer than 12 cases in any of these 12 areas. For those low-volume hospitals, a score was not calculated for the applicable condition or procedure. Organizations had to have valid scores for at least 2 out of the 12 conditions and procedures to be given an overall score. The maximum point allocation for this question was 48 points, however, it is possible for hospitals to have different denominators.

Table 1.7: Community Involvement and Coordination of Care Indicator Summary

Question	Possible Points	Weighting
Component 1: Communication and Coordination with the Community (57%)		
Section 4, Question 35	2	11%
Section 4, Question 37a	24	13%
Section 3, Question 30	42 (max)	17%
Section 4, Question 37b	108	16%
Component 2: Coordination within the Hospital (43%)		
Section 1, Question 7	12 (max)	15%
Section 4, Question 34	36	10%
Section 3, Question 29	48 (max)	18%
Total Score		100%

Indicator 5: Management and Support of Human Resources

The way in which a hospital implements innovative training programs and employee practices may help describe a hospital's reaction to its changing environment. The Management and Support of Human Resources indicator measures the degree to which hospitals are supporting their staff through the maintenance or development of staff roles in specialized functions, the provision of staff training and education and implementing recruitment and retention strategies. Sixteen questions (thirteen questions from section 1, two questions from section 2 and one question from section 5) were used to calculate this indicator.

Component 1: Support Processes (43%)

Section 1, Question 4: Organizations were asked to indicate which of the following 5 strategies were currently in place to deal with nursing shortages: utilization of overtime hours (1), decreased replacement for absenteeism since the previous fiscal year (1), agency nurses (1), increased use of casual or part-time nurses since the previous fiscal year (1), float pools (1). Hospitals were then asked to indicate who is currently responsible for replacing and finding nursing staff when shortages are present on a day-to-day basis. Hospitals received 1 point each for indicating nurse managers and/or the team/ professional practice leader as being responsible for replacing nursing staff. The total point allocation for this question was 7 points. (Note: hospitals indicating no nursing shortages received 7/7 for this question).

Section 1, Question 8: Hospitals were asked to indicate which mechanisms, if any, were currently in place to serve the requirements of patients with special communication needs. Six mechanisms were listed, and hospitals were awarded 1 point for each of the six mechanisms that were answered in the affirmative. The total point allocation for this question was 6 points. This question was removed from the component for hospital's that indicated less than 10% of their patients require special communication needs.

Section 1, Question 9: Question 9 asked whether the organization conducted and tracked performance evaluations, how frequently the organization conducted performance evaluations and the percent of each staff group or the percent of the total staff who had undergone a performance evaluation in the last year. For all staff groups, hospitals received 2 points if formal performance evaluations were completed yearly or more frequently and 1 point if they were conducted every 2 years. The total point allocation for this part of the question was 8 and was weighted out of 3.0%. The percent of staff that had undergone performance evaluations was weighted out of 4.0% (e.g. %/100 x 4).

Section 1, Question 10: Organizations were asked to indicate whether they currently had seven processes as part of their formal orientation program for newly hired staff; however, points were given only for two of the seven processes: education in clinical skills and knowledge in a classroom setting, as well as education in clinical skills and knowledge in a clinical setting. Hospitals were given 1 point each process. The total point allocation for this question was 6 points.

Section 1, Question 12 and 13: In question 12, organizations were asked to indicate which structures were currently in place to deal with clinical/medical ethical dilemmas that may arise with respect to patient care. Hospitals were awarded one point for each of the three structures that were indicated as being in place. In question 13, hospitals were awarded one point for each of the 5 staff groups that were indicated as having access to in-house training provided by an ethicist. The total point allocation for this question was 8 points.

Section 1, Question 6: This question asked if organizations currently had formal succession plans for three groups within the organization. One point was assigned for responding affirmatively to having a formal succession plan for each of the three groups. The total point allocation for this question was 3 points.

Section 1, Question 14: Hospitals were asked to indicate the number of volunteer hours that were contributed between April 1, 2004 and March 31, 2005. In order to make the responses from the hospitals comparable, the number of hours was divided by the hospital's number of total patient days, which includes acute days, ALC days, and same day-surgery cases. For the purposes of developing this index, one same day-surgery case is equivalent to one same day-surgery day. This value was then divided by the maximum index value from *Hospital Reports 2002: Acute Care* (3.07). The maximum index value was 20% greater than the highest value attained in 2002 by a hospital once the outliers were removed. Twenty percent was chosen so that hospitals could improve their values over time while the denominator stayed constant so that this question could be compared

in future years. This does not alter a hospital's performance allocation as performance allocations are relative to other hospitals.

Component 2: Work Environment (12%)

Section 1, Question 11b: For nurses, other regulated health professionals on staff, unregulated patient-care staff and other hospital staff, hospitals were asked to indicate the number of formal disputes, grievances, or complaints filed between April 1, 2004 and March 31, 2005. The number of formal disputes, grievances or complaints filed was used in the calculation of the indicator. In order to make the responses from the hospitals comparable, the values were divided by the total number of nurses, other regulated health professionals on staff, unregulated patient-care staff and other hospital staff (from Section 1, Question 5). An index of the number of formal disputes, grievances or complaints per non-managerial employees was developed by dividing the total number of formal disputes, grievances or complaints by the total number of non-managerial full-time staff. This value was then divided by the maximum index value from *Hospital Report 2002: Acute Care* (0.33). The maximum value was 20% greater than the highest value attained in 2002 by a hospital once the outliers were removed. Twenty percent was chosen so that hospitals could improve their values over time while the denominator stayed constant so that this question could be compared in future years. This does not alter a hospital's performance allocation as performance allocations are relative to other hospitals. Each hospital's score was then subtracted from 1 to ensure a higher score represented 'better' performance.

Section 5, Question 41: Organizations were asked to indicate the total number of WSIB lost-time claims between April 1, 2004 and March 31, 2005. An index of the number of WSIB lost-time claims per non-managerial employees was developed by dividing the total number of WSIB lost-time claims by the total number of non-managerial full-time staff (the number of non-managerial full-time staff was determined from the headcount provided in Section 1, Question 5). This value was then divided by the maximum index value from *Hospital Report 2002: Acute Care* (0.22). This maximum value was 20% greater than the highest value attained by a hospital in 2002, once the outliers were removed. Twenty percent was chosen so that hospitals could improve their values over time while the denominator stayed constant so that this question could be compared in future years. This does not alter a hospital's performance allocation as performance allocations are relative to other hospitals. Each hospital's score was then subtracted from 1 to ensure a higher score represented 'better' performance.

Component 3: Staff Supportive Roles (20%)

Section 1, Question 7: This question inquired about the existence of staff roles currently in the organization. For six roles (staff responsible for physician recruitment, acute care/specialty nurse practitioner, clinical nurse specialist, nurse educator, hospitalist and pathology assistant), hospitals were given 1 point if they indicated that the role was under development and 2 points if the role was permanent in the organization. For some organizations, a specific staff role may have been reviewed and found to be not applicable. Therefore, in order to avoid penalizing those organizations where that role was not applicable after reviewing, the denominator of this question was adjusted to include only

those staff roles that were applicable. The maximum point allocation for this question was 12 points.

Section 2, Question 15: Organizations were asked to indicate whether they provided any of nine types of continuing education or professional development support to nurses, other regulated health professionals on staff and unregulated patient care staff. Hospitals were given 1 point for each of the three staff groups indicated as having the following six items available to them: reimbursement of continuing education course, reimbursement of advanced education, bursaries/scholarships, paid time off to take courses, unpaid time off to take courses and flexible scheduling. The total point allocation for this question was 18 points.

Section 2, Question 16b: This question asked whether an organization currently invests in continuing education activities for staff. There were five staff groups listed but only nurses and other regulated health professionals on staff were used in the calculation of this indicator. For nine items (team building, conflict management, ethical issues, domestic violence and/or abuse, cultural diversity, violence in the workplace, availability of community services for patients, leadership development and communication skills programs), respondents were asked to indicate the percent of staff who participated in these programs/activities: none (0), few or <25% (1), some or 25-75% (2) and most or >75% (3). The number in brackets represents the number of points given for each response. The total point allocation for this question was 54 points.

Component 4: Recruitment and Retention (25%)

Section 1, Question 1: Question 1 lists seventeen recruitment and retention strategies for nurses, other regulated health professionals on staff, unregulated patient-care staff and other hospital staff. Organizations received 1 point for each employee group for whom the recruitment and retention strategy currently existed. The following 4 recruitment strategies were excluded from the calculation in question 1: a hospital website that offers information about employment at the hospital, availability/use of employee assistance programs, recognition programs for excellence or accomplishments and opportunities for advanced education supported by the hospital and/or hospital foundation. The total point allocation for this question was 52 points.

Section 1, Question 2: This question asked hospitals to indicate whether they currently had a forum that included recruitment/retention activities and quality of worklife activities as part of its mandate. Hospitals received one point for indicating the presence of a forum that includes recruitment and retention strategies, and one point for the presence of a forum that includes quality of work activities. For each activity for which a hospital indicated there was a forum, hospitals received one point for each of the five staff groups that were included in the representation. The total point allocation for this question was 12 points.

Section 1, Question 3: Hospitals were asked to indicate whether they currently tracked staff turnover rates. Hospitals received one point for responding affirmatively and one point for each of the five staff groups that were indicated as having their separations tracked by the organization. The total point allocation for this question was 6 points.

Table 1.8: Management and Support of Human Resources Indicator Summary

Question	Possible Points	Weighting
Component 1: Support Processes (43%)		
Section 1, Question 4	7	8%
Section 1, Question 8	6	4%
Section 1, Question 9	8	7%
Section 1, Question 10	6	6%
Section 1, Question 12 and 13	8	8%
Section 1, Question 6	3	5%
Section 1, Question 14	3.07	5%
Component 2: Work Environment (12%)		
Section 1, Question 11b	0.33	5%
Section 5, Question 41	0.22	7%
Component 3: Staff Supportive Roles (20%)		
Section 1, Question 7	12 (max)	7%
Section 2, Question 15	18	6%
Section 2, Question 16b	54	7%
Component 4: Recruitment and Retention (25%)		
Section 1, Question 1	52	10%
Section 1, Question 2	12	7%
Section 1, Question 3	6	8%
Total Score		100%

Indicator 6: Healthy Work Environment

The Healthy Work Environment indicator was designed to measure the extent to which hospitals have mechanisms in place to support and promote a healthy work environment and thereby contribute to employee's physical, social, mental and emotional well-being. Eleven questions from section 5 were used to calculate this indicator.

Component 1: Healthy Workplace Policy/Plan (30%)

Section 5, Question 38a: Organizations were asked about their workplace policy/plan. Three points were given to organizations that had a policy/plan that extended beyond policies mandated by health and safety legislation. The total point allocation for this question was 3 points.

Section 5, Question 38b: This question asked if the organization's healthy workplace policy/plan was based on an employee needs assessment. Organizations with an informal assessment process in place to evaluate employee needs, attitudes and preferences in regard to healthy workplace programs were given 1 point and 2 points were assigned to organizations with a formal assessment. The total point allocation for this question was 2 points.

Component 2: Accountability & Responsibility (10%)

Section 5, Question 39a: This question asked if accountability and responsibility for healthy workplace initiatives were formally assigned within the organization. Organizations were given 3 points if accountability and responsibility were formally assigned. The total point allocation for this question was 3 points.

Section 5, Question 39b: if accountability and responsibility for healthy workplace initiatives were formally assigned within the organization, they were then asked to specify which group was accountable and responsible for healthy workplace initiatives. Organizations that chose senior management received 1 point. If accountability and responsibility were shared broadly throughout the organization, organizations were given 2 points. The total point allocation for this question was 3 points.

Component 3: Assessment, Analysis, & Improvement (20%)

Section 5, Question 40a: Organizations were asked if there were processes in place to assess, analyze and improve the organization's approach to healthy workplace issues. Three points were given if there was a formal process in place and 1.5 points if organizations had an informal process. The total point allocation for this question was 3 points.

Section 5, Question 40b: Organizations were asked to identify which of the following outcomes associated with developing a healthy workplace were collected and analyzed within the organization. There were 11 outcomes provided in the question. Organizations who indicated there was an informal process received 1 point and those with a formal process received 2 points. The total point allocation for this question was 22 points.

Section 5, Question 40c: This question asks organization how they disseminated information about the outcomes associated with their healthy workplace policy/programs. For each of the 8 groups, organizations received 1 point if an internal written report was circulated about key highlights. Verbal presentation and discussion of results and results reviewed beyond the initial verbal presentation for a specific initiative were given 3 points each. The total point allocation for this question was 32 points.

Component 4: Key Dimensions (40%)

Section 5, Question 42: Organizations were asked about 8 processes in place to support a positive psychosocial environment. Hospitals with a process in place to encourage the participation of front-line employees in decision-making and overall control of their jobs

were given 2 points for an informal process and 4 points for a formal process. Additionally, hospitals with a process in place to create innovative schedules, hours of work and job sharing arrangements to meet the needs of work settings was allocated 2 points for an informal process and 4 points for a formal process. Hospitals received 1 point for an informal process and 2 points for a formal process for the 6 other processes in place. The total point allocation for this question was 20 points.

Section 5, Question 43a: This question asked if there were one or more healthy lifestyle programs offered by your organization. If organization's answered yes, they received 3 points. The total point allocation for this question was 3 points.

Section 5, Question 43b: If an organization indicated there was a healthy lifestyle program offered, they were asked which of the healthy lifestyle program(s) included any of the 4 components (e.g. formal approach to education and skill development, assessment of behaviour change, monitoring/evaluation of utilization of programs, long term planning). 1 point was allocated to each of the 4 components. The total point allocation for this question was 4 points.

Section 5, Question 43c: Organizations were asked if their program(s) were developed (or lack thereof) based on an employee needs assessment. If an organization identified yes, they were given 3 points. The total point allocation for this question was 3 points. If organizations answered in Q43a='NO' and Q43c='YES', then Q43 was removed from the component and the key dimensions component was composed of Q42 only.

Table 1.9: Healthy Work Environment Indicator Summary

Question	Possible Points	Weighting
Component 1: Healthy Workplace Plan/Policy (30%)		
Section 5, Question 38a	3	30%
Section 5, Question 38b	2	
Component 2: Accountability & Responsibility (10%)		
Section 5, Question 39a	3	10%
Section 5, Question 39b	3	
Component 3: Assessment, Analysis, and Improvement (20%)		
Section 5, Question 40a	3	20%
Section 5, Question 40b	22	
Section 5, Question 40c	32	
Component 4: Key Dimensions (40%)		
Section 5, Question 42	20	27%
Section 5, Question 43a	3	13%
Section 5, Question 43b	4	
Section 5, Question 43c	3	
Total Score		100%

Indicator 7: Patient Safety Reporting and Analysis

The Patient Safety Reporting and Analysis indicator was designed to measure the degree to which patient safety reporting processes and patient safety analysis activities are implemented and monitored within the hospital. Seven questions were used from section 6 of the *2006 Acute Care SIC survey*.

Component 1: Patient Safety Reporting Processes (50%)

Section 6, Question 49b: This question asked hospitals whether or not they provided quarterly reports to the board on patient safety which also included changes/improvements following incident investigation and follow-up. If it was to be developed in 2005 for full implementation in 2006, hospitals received 0.5 points. If it was fully implemented in the hospital, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 49d: This question asked hospitals if they maintained a registry of all sentinel events. If a registry was maintained, hospitals received one point. The total point allocation for this question was 1 point.

Section 6, Question 49e: This question asked if hospitals implemented a formal policy and process of disclosure of adverse events to patients/families that also included support mechanisms for patients, family and care/service providers. If this policy was to be developed in 2005 for full implementation in 2006, hospitals received 0.5 points. If this policy was already fully implemented in the hospital, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51g: This question asked if hospitals developed a reporting system to collect information from employees that could lead to near misses or actual adverse events as a strategy to improve patient safety. If this strategy was in place in specific departments, hospitals received 0.5 points or 1 point if it was implemented hospital-wide. The total point allocation is 1 point.

Component 2: Patient Safety Analysis Activities (50%)

Section 6, Question 49f: Organizations were asked if they conducted one patient safety-related prospective analysis process per year and implemented appropriate improvements/changes. If this was to be developed in 2005 for full implementation in 2006, hospitals received 0.5 points. If it was fully implemented, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51p: Organizations were asked whether the strategy of performing a root cause analysis was currently being used in the hospital to improve patient safety. If it occurred in specific departments only, hospitals received 0.5 points. If this strategy occurred hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51q: This question asked whether or not hospitals conducted targeted chart audits as a current strategy to improve patient safety. If this strategy was in place in specific departments only, hospitals received 0.5 points. If this was a hospital-wide strategy, hospitals received 1 point. The total point allocation for this question was 1 point.

Table 1.10: Patient Safety Reporting and Analysis Indicator Summary

Question	Possible Points	Weighting
Component 1: Patient Safety Reporting Processes (50%)		
Section 6, Question 49b	1	12.5%
Section 6, Question 49d	1	12.5%
Section 6, Question 49e	1	12.5%
Section 6, Question 51g	1	12.5%
Component 2: Patient Safety Analysis Activities (50%)		
Section 6, Question 49f	1	50%
Section 6, Question 51p	1	
Section 6, Question 51q	1	
Total Score		100%

Indicator 8: Promoting a Patient Safety Culture

The Promoting a Patient Safety Culture indicator was designed to measure the extent to which hospitals implement organizational practices to create a work setting that supports the safe delivery of care/service. A total of nine questions from section 6 were used.

Section 6, Question 49a: This question asked whether or not the hospital adopted patient safety as a written strategic priority/goal. If hospitals indicated 'yes' they received 1 point. The total point allocation for this question is 1 point.

Section 6, Question 51a: This question asked whether or not conducting employee and patient surveys was used as a strategy to improve patient safety within the hospital. If this strategy was in specific departments only, hospitals received 0.5 points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51b: This question asked whether or not hospitals conducted safety briefings in patient care units as a strategy to improve patient safety. If this strategy was in specific departments only, hospitals received 0.5 points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51c: Organizations were asked if they used patient safety leadership walkrounds in the hospital to improve patient safety. If so, the walkrounds must be conducted at least weekly in emergency department, operating rooms, radiology, pharmacy and laboratories. If this strategy was in specific departments only, hospitals received 0.5

points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51d: This question asked whether or not their hospital provided feedback to front-line staff and maintained database to monitor as a strategy to improve patient safety. If this strategy was in specific departments only, hospitals received 0.5 points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51f: Organizations were asked whether or not their hospital appointed and trained 'Safety Champions' for every department and patient care unit to improve patient safety. If this strategy was in specific departments only, hospitals received 0.5 points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51h: This question asked whether or not hospitals used a non-punitive reporting policy in place to improve patient safety. If this strategy was in specific departments only, hospitals received 0.5 points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51j: This question asked whether or not hospitals had relay safety events at shift change as a strategy to improve patient safety. If this strategy was in specific departments only, hospitals received 0.5 points. If this strategy was hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Section 6, Question 51l: This question asked whether or not hospitals had an adverse event team/patient safety steering committee. These teams are committed to culture of support, providing 24-hour coverage to respond to all adverse events, review events and support staff, family and physicians. If this strategy occurred in specific departments only, hospitals received 0.5 points. If this strategy was in place hospital-wide, hospitals received 1 point. The total point allocation for this question was 1 point.

Table 1.11: Promoting a Patient Safety Culture Indicator Summary

Question	Possible Points	Weighting
Component 1: Promoting a Patient Safety Culture (100%)		
Section 6, Question 49a	1	100%
Section 6, Question 51a	1	
Section 6, Question 51b	1	
Section 6, Question 51c	1	
Section 6, Question 51d	1	
Section 6, Question 51f	1	
Section 6, Question 51h	1	
Section 6, Question 51j	1	
Section 6, Question 51l	1	
Total Score		100%

Indicator 9: Strategies to Manage the Waiting Process in Ambulatory Care Clinics

The Strategies to Manage the Waiting Process in Ambulatory Care Clinics indicator was designed to measure the extent to which hospitals use formal processes to remove a patient from a waiting list, use a centralized scheduling system to coordinate all patient visits and use strategies to make the patient's wait experience more informative and comfortable. Three questions from section 8 were used to calculate this indicator.

Component 1: Formal Processes to Remove Patient from Wait List (24%)

Section 8, Question 63: This question asked hospitals what proportion of their ambulatory care clinics currently has a formal process to remove a patient from the wait list when appropriate. Hospitals were given 1 point for <25% rarely, 2 points for 25-75% sometimes and 3 points for 75+% most of the time. The total point allocation for this question was 3 points.

Component 2: Centralized Scheduling System to Coordinate Patient Visits (43%)

Section 8, Question 64: This question asked hospitals what proportion of their ambulatory care clinics currently made use of a centralized scheduling system that coordinated all patient visits. Hospitals were given 1 point for <25% rarely, 2 points for 25-75% sometimes and 3 points for 75+% most of the time. The total point allocation for this question was 3 points.

Component 3: Strategies to Make the Patient's Wait More Comfortable/Informative (33%)

Section 8, Question 65: This question asked hospitals which services or tools were consistently provided to make the patient's wait experience more comfortable and/or informative for the patient and family. Hospitals received 1 point each for each of the 5 services or tools. The total point allocation for this question was 5 points.

Table 1.12: Strategies to Manage the Waiting Process in Ambulatory Care Clinics Indicator Summary

Question	Possible Points	Weighting
Component 1: Formal Processes to Remove Patient from Wait List		
Section 8, Question 63	3	24%
Component 2: Centralized Scheduling System to Coordinate Patient Visits		
Section 8, Question 64	3	43%
Component 3: Strategies to Make the Patient's Wait More Comfortable/Informative		
Section 8, Question 65	5	33%
Total Score		100%

Indicator 10: Performance Management in Ambulatory Care

The Performance Management in Ambulatory Care indicator was designed to measure the extent to which hospitals use and monitor clinic performance indicators, as well as how hospitals incorporate quality improvement initiatives in ambulatory clinics. Three questions from section 8 were used to calculate this indicator.

Component 1: Use and Monitoring of Performance Indicators Internally (41%)

Section 8, Question 72a: This question asked what proportion of hospitals' ambulatory care clinics monitored performance indicators internally. Hospitals received 1 point if some of our clinics (25-50%), 2 points for most of our clinics (50-75%) and 3 points for all of our clinics (100%). The total point allocation for this question was 3 points.

Component 2: Use and Monitoring of Performance Indicators Externally (26%)

Section 8, Question 72b: This question asked what proportion of hospitals' ambulatory care clinics monitored performance indicators externally. Hospitals received 1 point if some of our clinics (25-50%), 2 points for most of our clinics (50-75%) and 3 points for all of our clinics (100%). The total point allocation for this question was 3 points.

Component 3: Use of Ongoing Quality Improvement Projects (33%)

Section 8, Question 72c: This question asked what proportion of the hospital's clinics currently has ongoing quality improvement initiatives. Hospitals received 1 point if hospitals indicated some of our clinics (25-50%), 2 points for most of our clinics (50-75%) and 3 points for all of our clinics (100%). The total point allocation for this question was 3 points.

Table 1.13: Performance Management in Ambulatory Care Indicator Summary

Question	Possible Points	Weighting
Component 1: Use and Monitoring of Performance Indicators Internally		
Section 8, Question 72a	3	41%
Component 2: Use and Monitoring of Performance Indicators Externally		
Section 8, Question 72b	3	26%
Component 3: Use of Ongoing Quality Improvement Projects		
Section 8, Question 72c	3	33%
Total Score		100%

Verification

Hospitals were not sent preliminary values for the survey questions that were used in the calculations of the SIC indicators. This is because there were phone calls made, emails and faxes sent after the surveys were received, where hospitals were given ample time to respond to any data quality issues or missing answers that were detected.

Methods Used to Determine Relative Performance in Hospital Report 2006: Acute Care

Performance Allocations

As in last year's report, a three-point scale was used to designate performance allocations as "above average", "average" or "below average". This section describes the method for determining relative performance between organizations.

Determining relative performance among hospitals for the six indicators derived from the *Hospital Report 2006 Acute Care SIC Survey* was based on two peer groups: teaching/community hospitals and small hospitals. Peer group reporting was adopted because small hospitals face different challenges in carrying out many of the activities reported in the SIC areas. In addition, not all of these indicators apply equally to small hospitals and teaching/community hospitals. For example, it might be less meaningful for a small hospital to conduct a formal patient or employee satisfaction survey when they only have 200 discharges annually or 80 full-time staff. Small hospitals were defined as those hospitals funded using the JPPC Small Hospital Funding Formula. Please refer to www.jppc.org for more information.

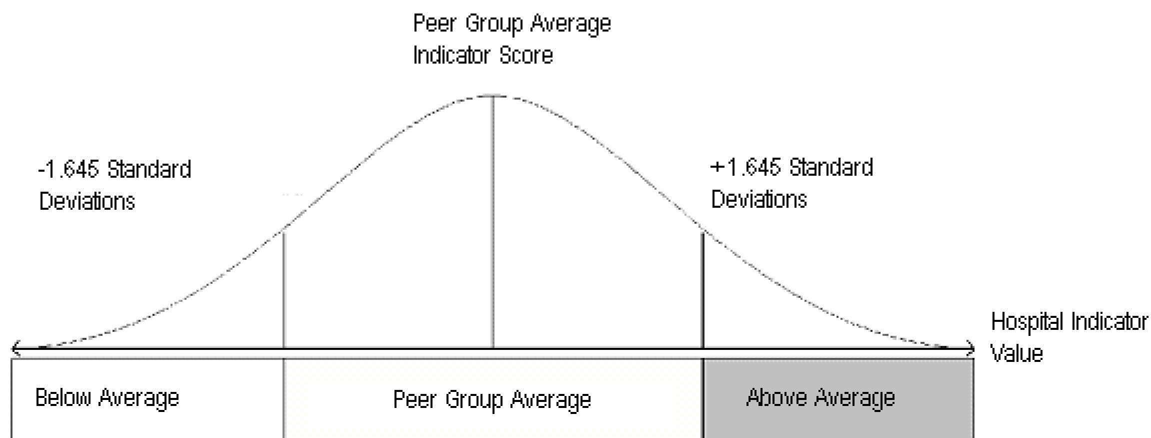
Scores for each indicator were stratified into peer groups and these distributions were tested for normality using the Shapiro-Wilk test, Kolmogorov-Smirnov test, and the Lang-Secic test. These statistical strategies provide tests for the null hypothesis that the input data values are a random sample from a normal distribution. In other words, they assess the discrepancy between the empirical distribution of observed values and the estimated hypothesized normal distribution estimated by the sample mean and standard deviation. Where applicable, the Shapiro-Wilk test was applied, as it is a compromise between the more stringent Kolomogorov-Smirnov test and the more liberal Lang-Secic test.

If the indicator did not follow a normal distribution, the indicator was transformed using the square, square root, and logarithmic functions. The same normality test was performed on these transformed standard deviations and means. When more than one of the transformations resulted in a normal distribution, the transformation used to allocate performance ratings was the transformation that produced the lowest Wald's Test value (a test of skewness and kurtosis).

Unlike previous years, *Hospital Report 2006: Acute Care* included both system-wide and hospital-specific hospitals to calculate the performance allocation averages. Therefore, 109 hospitals (94 teaching/community hospitals and 15 small hospitals) were used to determine the performance levels.

Hospitals were allocated into three categories: "below average", “average”, and "above average", determined by the position of the hospital’s indicator value relative to the mean indicator value of its peer group. These values were reviewed to ensure meaningful differences among hospitals in the three categories. Figure 1.14 describes the method of assigning performance allocations for all hospitals relative to the distribution.

Figure 1.14: How Performance was Allocated



The criteria used to determine relative performance in each peer group is described below.

Teaching/Community Hospitals
Five of the six *Hospital Report: 2006 Acute Care SIC survey* indicator distributions were considered to be normal. The distribution for Management and Support of Human Resources was not normally distributed; it was transformed using the square function. The distribution of the Healthy Work Environment indicator was also not normally distributed, however none of the transformations provided a ‘more’ normal distribution of the scores. Therefore the Healthy Work Environment scores were not transformed before performance allocation was determined.

Small Hospitals
For small hospitals, all of the *Hospital Report 2006: Acute Care SIC survey* indicator distributions were considered to be normal, no transformations were needed.

Table 1.15 shows the actual scores that correspond to 1.645 standard deviations from the mean, or scores that approximate these specifications when using different transformations[3]. Hospitals with scores above or below these cut points were respectively identified as hospitals with above or below average levels of performance.

[3] For the indicator that was transformed, the performance allocation mean represents the mean of the transformed score, displayed on the normal scale.

Table 1.15: Indicator Values Differentiating the Three Performance Categories in *Hospital Report 2006: Acute Care* for Teaching/Community Hospitals

Indicator	Below Average Performance Cut Off	Above Average Performance Cut Off	Total Possible Score
Teaching/ Community Peer Group			
Use of Clinical Information Technology	34.04	80.82	100.00
Use of Data for Decision-Making	38.39	90.70	100.00
Use of Standardized Protocols	5.06	66.91	100.00
Community Involvement and Coordination of Care	25.67	70.65	100.00
Management and Support of Human Resources	39.03	77.88	100.00
Healthy Workplace Environment	31.29	106.48*	100.00
Small Hospital Peer Group			
Use of Clinical Information Technology	13.85	63.61	100.00
Use of Data for Decision-Making	19.73	70.23	100.00
Use of Standardized Protocols	-8.09*	58.55	100.00
Community Involvement and Coordination of Care	6.94	53.01	100.00
Management and Support of Human Resources	30.42	58.29	100.00
Healthy Workplace Environment	18.88	93.05	100.00

*A high degree of variability in the scores resulted in upper and lower cut-off values greater than 100 or less than 0, respectively.

It is important to consider the meaning and value of these cut points. The absence of any hard data about what a “good” score is on any of these indicators means that the results need to be interpreted somewhat cautiously.

However, the methodology used for identifying these cut points (which subsequently mark an organization as having average, or above, or below average performance in each of these areas) is reasonable, scientifically sound, and conservative. Because the range of scores that capture "average" performance on these indicators is quite large, hospitals with scores close to the upper or lower cut points can gain an increased understanding of their performance levels upon receipt of their hospitals’ results. From a performance improvement standpoint, a teaching/community hospital achieving a score of 35 on the Use of Clinical Information Technology indicator, while identified as having “average” level

of performance, falls very close to the “somewhat below average” cut point. Moreover, 35 points on the Use of Clinical Information Technology indicator means that the teaching/community hospital has almost no clinical information accessible electronically throughout the hospital. Clearly there is opportunity for considering improvement in this area for such a hospital.

System-Level Findings

This section provides provincial findings for the ten indicators of SIC. In addition, the data are presented for teaching, community and small hospitals separately.

For each of the ten SIC indicators several statistics are displayed: the valid N (number of hospitals that received a score for this indicator), the mean and the standard deviation. In addition, the minimum score and maximum score received for each indicator are displayed along with three percentile rankings: the 25th, 50th (median) and 75th. Just as the median is the value above and below which 50% of cases fall, percentiles provide the same information for different percentages of cases. For example, the value in the 25th percentile is the value that 25% of hospitals scored at or below (and the value above which 75% of hospitals scored).

The statistics in each indicator table are displayed for all 109 hospitals that returned a survey, and they are also displayed for teaching, community and small hospital groups. Combined, these statistics provide important measures of central tendency as well as detailed information about the dispersion of scores for each indicator.

Peer Group Differences

As previously stated, in *Hospital Report 2006: Acute Care*, teaching/community hospitals were included in the same peer group for performance allocations. In this section of the *Acute Care Technical Summary*, we have separated out teaching/community hospitals in order to provide hospitals with more detailed data at the hospital group level. However, in reporting data at this level, it is important to clarify that data are provided for these different groups so that hospitals can situate themselves relative to their peers, not to facilitate comparisons between these two different groups.

Table 1.16: Use of Clinical Information Technology Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	52.11	67.96	55.32	38.73
Std Deviation	16.72	12.30	13.70	15.13
Minimum	5.78	45.95	14.20	5.78
25th Percentile	43.37	56.77	47.86	30.77
Median	52.55	67.64	57.14	36.79
75th Percentile	64.65	76.13	64.65	48.14
Maximum	86.88	86.88	83.96	70.67

Table 1.17: Use of Data for Decision-Making Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	58.98	72.62	62.92	44.98
Std Deviation	18.01	19.79	14.66	15.35
Minimum	18.51	24.51	20.16	18.51
25th Percentile	45.45	66.01	54.78	34.53
Median	61.26	79.03	63.62	42.04
75th Percentile	72.49	86.21	74.69	58.96
Maximum	97.59	95.56	97.59	71.48

Table 1.18: Use of Standardized Protocols Indicator

	All Hospitals	Teaching	Community	Small
Valid N	105	13	65	27
Mean	33.22	34.73	36.24	25.23
Std Deviation	19.66	18.93	18.91	20.26
Minimum	0.00	9.52	0.00	0.00
25th Percentile	18.15	22.62	21.43	10.99
Median	30.51	26.57	35.80	22.05
75th Percentile	48.96	46.59	49.55	37.26
Maximum	80.00	69.09	80.00	76.39

Table 1.19: Community Involvement and Coordination of Care Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	42.99	57.18	46.36	29.98
Std Deviation	15.99	14.41	12.89	14.00
Minimum	7.80	34.03	10.95	7.80
25th Percentile	30.97	49.59	37.26	18.89
Median	44.84	56.30	46.55	29.27
75th Percentile	54.29	63.32	56.75	40.67
Maximum	80.95	80.95	75.21	58.10

Table 1.20: Management and Support of Human Resources Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	55.96	69.11	58.63	44.85
Std Deviation	13.34	7.55	12.31	8.77
Minimum	14.33	55.57	14.33	26.97
25th Percentile	45.94	67.02	48.78	36.57
Median	56.22	69.33	60.83	44.46
75th Percentile	67.18	72.79	68.15	52.02
Maximum	82.24	82.24	82.20	60.22

Table 1.21: Healthy Work Environment Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	65.21	80.24	66.61	55.96
Std Deviation	23.41	20.40	22.78	22.54
Minimum	16.00	40.89	16.00	17.32
25th Percentile	44.23	76.11	46.45	37.02
Median	67.02	83.99	70.19	52.44
75th Percentile	85.42	94.30	88.59	78.78
Maximum	100.00	100.00	99.30	100.00

Table 1.22: Patient Safety Reporting and Analysis Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	67.43	76.60	66.96	64.58
Std Deviation	20.28	16.41	22.19	16.63
Minimum	18.75	43.75	18.75	29.17
25th Percentile	54.17	68.75	54.17	50.00
Median	68.75	83.33	70.83	66.67
75th Percentile	83.33	85.42	85.42	75.00
Maximum	100.00	100.00	100.00	100.00

Table 1.23: Promoting a Patient Safety Culture Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	51.02	66.24	51.37	43.91
Std Deviation	22.80	14.07	23.59	21.24
Minimum	0.00	38.89	0.00	11.11
25th Percentile	33.33	66.67	33.33	27.78
Median	55.56	66.67	55.56	44.44
75th Percentile	66.67	77.78	72.22	61.11
Maximum	100.00	83.33	100.00	83.33

Table 1.24: Strategies to Manage the Waiting Process in Ambulatory Care Clinics Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	47.81	70.54	49.82	34.07
Std Deviation	27.70	21.64	25.06	28.43
Minimum	0.00	33.00	0.00	0.00
25th Percentile	21.20	55.07	26.40	19.80
Median	48.73	69.40	55.07	19.80
75th Percentile	69.40	92.00	69.40	43.80
Maximum	100.00	100.00	93.40	93.40

Table 1.25: Performance Management in Ambulatory Care Indicator

	All Hospitals	Teaching	Community	Small
Valid N	109	13	65	31
Mean	55.27	65.51	58.50	44.22
Std Deviation	30.20	21.07	30.33	30.81
Minimum	0.00	33.33	0.00	0.00
25th Percentile	33.33	47.00	33.33	24.67
Median	55.67	66.67	58.00	33.33
75th Percentile	82.67	82.67	89.00	66.67
Maximum	100.00	100.00	100.00	100.00

Table 1.26: Average Indicator Scores by LHIN [4]

LHIN Name	Use of Clinical Information Technology	Use of Data for Decision-Making	Use of Standardized Protocols	Community Involvement and Coordination of Care	Management and Support of Human Resources	Healthy Work Environment Indicator
Erie St. Clair	61.67	59.81	40.04	44.56	61.72	57.23
South West	55.84	62.07	35.81	39.78	55.24	68.64
Waterloo Wellington	51.93	71.46	51.28	53.01	67.84	79.18
Hamilton Niagara Haldimand Brant (HNHB)	47.53	58.01	31.35	44.24	57.24	68.29
Central West	63.37	54.49	57.37	57.31	64.06	44.89
Mississauga Halton	61.85	75.07	43.55	55.91	70.06	87.81
Toronto Central	71.63	82.58	45.20	63.05	73.31	84.72
Central	57.08	61.53	26.45	42.80	62.54	62.72
Central East	52.05	65.04	30.63	42.62	56.35	60.09
South East	53.54	46.02	31.31	48.57	56.13	77.23
Champlain	43.07	60.82	34.57	43.25	53.84	70.41
North Simcoe Muskoka	53.61	55.25	26.93	40.41	57.96	57.46
North East	47.50	44.03	27.91	32.20	41.20	43.73
North West	42.46	47.12	9.99	30.70	45.65	60.74

[4] The new patient safety and ambulatory care indicators are not publicly reported at a hospital-specific level. Accordingly, due to the small number of hospitals in some LHINs, the LHIN average for these indicators are not provided here. Hospitals can access this information in the e-Scorecard.

Summary and Next Steps

Ontario acute care hospitals are constantly facing new challenges everyday. Recently, there have been new networks and alliances formed which have changed the organization of the hospital system. Small, community and teaching Ontario acute care hospitals are continually striving to improve the level of internal and external integration of care with other LHIN partners such as other acute care hospitals, cancer centres and public health departments. Yet, new technologies and growing demands for service continue to strain existing resources. The indicators of SIC provide a performance profile reflecting efforts by acute care hospitals in Ontario to meet these challenges. These indicators capture four broad but key areas:

- Access to and use of information to improve levels of care and health services
- Levels of hospital integration with other LHIN partners in joint initiatives
- Employee practices and professional development for a more productive health care team in a changing environment
- External benchmarking of clinical measures to increase the use and dissemination of clinical data

Overall, hospitals have made some improvements in the different indicators, or investments, when compared to *Hospital Report: 2005* survey results, in the areas of Management and Support of Human Resources, Community Involvement and Coordination of Care, Use of Standardized Protocols and Use of Clinical Information Technology. However, there continues to be variation in performance for all indicators, indicating opportunities for improvement in targeted areas for some hospitals.

The majority of *2006 Hospital Report: Acute Care SIC* indicators, ranges and mean indicator scores were consistent with *Acute Care 2005 SIC* results. This year's means fell around or below half of the achievable score. Teaching/community hospitals often achieve similar scores on these indicators. However, small hospitals typically score lower than teaching/community hospitals. Although there is a lot of room for improvement, findings also suggest that some hospitals are excelling in many areas by engaging in a variety of integration and information seeking activities.

The next steps for the 2007 SIC Survey include:

- The entire SIC survey will be available online to improve data quality and timeliness
- The online survey will help in reducing mailing and printing costs
- Further refinement of the corporate governance indicator

System Integration and Change:
Patient Safety Advisory Panel Membership for
Hospital Report 2006: Acute Care

Organization Name	Participant	Position Title
Lakeridge Health	Doris Doidge	Corporate Risk and Quality
Huron Perth Healthcare Alliance	Keary Fulton-Wallace	Performance Management Reporting Coordinator
The Hospital for Sick Children	Carol Goldman	Infection Control
North York General Hospital	Cheryl Harrison	Utilization Manager
University Health Network	Katherine Henning	Manager Performance Measurement
The Hospital for Sick Children	Dr. Anne Matlow	Physician Liaison, Patient Safety
Stevenson Memorial Hospital	Susan Plewes	VP, Chief Nursing Executive

System Integration and Change: Access to Care Advisory Panel Membership for *Hospital Report 2006: Acute Care*

Organization Name	Participant	Position Title
Haliburton Highlands Health Services	Connie Wood	Director, Organizational Development
Deep River and District Hospital	Carolyn Zacharuk	CEO
Thunder Bay Regional Health Sciences Centre	Lori Marshall	Senior VP, Patient Care
Rouge Valley Health System	Paula Raggiunti	Corporate Decision Support Analyst
Hôpital régional de Sudbury Regional Hospital	Vonda Cooper	Director Emergency and Medical Program
Renfrew Victoria Hospital	Maureen Sly-Harvey	Clinical Manager-Active Care
Hamilton Health Sciences	Teresa Smith	Director of Quality, Patient Safety, Clinical Resource Management
Grand River Hospital	Jim Israel, MD	VP, Chief Medical Officer
Kingston General Hospital	John Lott	Director, Information Analysis
University Health Network	Katherine Henning	Manager, Performance Measurement
The Credit Valley Hospital	Mary MacLeod	Director, Quality Management
North York General Hospital	Susan Kwolek	VP
St. Joseph's Health Care London	Howard Hansford	Director, Ivey Eye Institute
Cambridge Memorial Hospital	Ann Bartlett	Director, Perioperative Services
Pembroke Regional Hospital	Sandra Keon	VP Clinical Programs
Southlake Regional Health Centre	Douglas Moore	Director, Surgical Program

System Integration and Change: Ambulatory Care Services Advisory Panel Membership for *Hospital Report 2006: Acute Care*

Organization Name	Participant	Position Title
Alexandra Marine & General Hospital	Rick Bedard	Director, Clinical Support Services
Deep River and District Hospital	Lianne Wheeler	CNO
Huron Perth Healthcare Alliance	Keary Fulton-Wallace	Utilization Coordinator
Haliburton Highlands Health Services	Susan Reid	Director, Acute & Ambulatory Care/Chief Nursing officer
Humber River Regional Hospital	Colleen Jones	Program Director ER, Dialysis, Ambulatory Care
Hôpital régional de Sudbury Regional Hospital	Kelly Reilly	Manager Ambulatory Care
The Ottawa Hospital	Shirley Gay	Clinical Director, Ambulatory Care Program and Mental Health
St. Joseph's Health Care London	Roy Butler	Director, Quality Measurement & Clinical Decision Making
University Health Network	Anne Tattersall	Executive Director
Sault Area Hospital	Marie Paluzzi	Manager, Pharmacy
St. Mary's General Hospital	Linda Brooks	Program Manager - Ambulatory & Cardiac
Leamington District Memorial Hospital	John Norton	Director, Ambulatory Care
St. Joseph's Healthcare Hamilton	Susan Hollis	CFO
The Hospital for Sick Children	Irene Blais	Director, Decision Support
Bluewater Health	David Vigar	President, CEO
Ontario Joint Policy and Planning Committee	Imtiaz Daniel	Consultant

System Integration and Change: Board Governance Content Advisors for *Hospital Report 2006: Acute Care*

Organization Name	Participant	Position Title
St. Michael's Hospital	Wendy Cecil	Board Member
York Central Hospital	Kirk Corkery	Past Chair, Board of Trustees
University Health Network	Robert Bell	CEO
St. Joseph's Health Care London	Cliff Nordal	CEO
Fasken Martineau LLP	Louise Shap	Lawyer
York Central Hospital	Bruce Harber	CEO
Windsor Regional Hospital	Martin Girash	CEO
Ontario Teacher's Pension Plan	Claude Lamoureux	CEO
The Hospital for Sick Children	Jalynn Bennett	Director
University Health Network	Bella Martin	Legal Counsel

Appendix A: 2006 Methodology Changes

During the *2006 Acute Care SIC survey* redevelopment process; questions were reviewed by both the HRRC researchers and CIHI analysts. The methodology changed for four indicators. For example, similar and new questions were added this year to replace any questions that were removed in last year's indicators. This was performed to ensure that the indicator's overall weight was consistent with last year's. When old indicator questions were removed, the analysts proposed new question items and methodology. The proposals were then sent to Hospital Report Research Collaborative for feedback and discussion.

INDICATOR NAME	*Hospital Report 2005 SIC Survey*	*Hospital Report 2006 SIC Survey*
Use of Clinical Information Technology Indicator	Q.22 Total points = 11, Weight = 20%	Q.18: Two functions were dropped during the redevelopment process (Recording nursing workload data and Accessing clinical decision support tools) and two functions were merged together (Accessing Literature Search Databases and Accessing Library Resources/Educational Materials) Total points = 9, Weight = 20%
Use of Data for Decision-Making ------------------------------------	Q.51 (question was completely removed in 2006), total points = 9, Weight = 14% ------------------------------------ Q.27 (question was completely removed in 2006), total points = 2, Weight = 9%	Q.49c, Q.49d, Q.49f, Q.51e Q.51l, Q.52d (1 point each) were added to replace Q.51. Total points = 6, Weight = 14% ------------------------------------ Q.25 was reweighed to 20% to keep the component's overall weight consistent with last year's.
Management and Support of Human Resources indicator	Q.8 Total Points = 12, Weight = 7%	Q.9 Physicians group was removed during the redevelopment process. Total points = 8, total weight remained the same

------------------------------------	------------------------------------ Q.30 Total points = 5, Weight = 5%	at 7%. ------------------------------------- Q.6: Two groups were removed this year (Board of Director's Chair and Chairs of standing committees of the board) Total points = 3, Weight = 5%
The Healthy Work Environment indicator	Q.1 and Q.4c were completely removed in 2006 due to lack of variance.	Two new questions were added this year (Q.40b and Q.40c). A total of 11 questions were used in this year's calculation of the Healthy Work Environment Indicator.