

Hospital e-Scorecard Report 2008: Acute Care
System Integration and Change Technical Summary

This technical document has been updated by Clara Pong and Sara Grimwood for Hospital e-Scorecard Report 2008. Acknowledgement is given to Ross Baker, Virginia Flintoff, Neil Seeman and Jilian Paul, the original contributors of the technical document.

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1. Overview

This *SIC Technical Summary* presents additional details of the methodology and results not provided in *Hospital e-Scorecard Report 2008: Acute Care*. The Acute Care System Integration and Change (SIC) quadrant reports on indicators that 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, promotion of a healthy work environment, management of ambulatory care clinics, and patient safety practices. This is the second year that the SIC Survey has been administered online.

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 e-Scorecard Report 2008: Acute Care* were derived from the *2008 SIC survey*.

For each SIC indicator, this *SIC Technical Summary* provides a 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 and for teaching, community and small hospital peer groups.

2. Methodology

The following sections describe the methodology used to identify indicators for *Hospital e-Scorecard Report 2008: Acute Care*, including the modification of the survey instrument, redevelopment of the indicators, the data collection process, a detailed description of how each indicator was constructed and the modified performance allocation method. There are seven SIC indicators presented in *Hospital e-Scorecard Report 2008: Acute Care*.

After the multi-sector survey, consisting of 67 questions was entered into the survey tool, validation, skip logic, and workflow design were developed using the online software. In November 2007, three web-based demonstrations were conducted with approximately 85 hospitals in attendance. These web-based demonstrations included an online demonstration of how to navigate through the survey, discussion on frequently asked questions and an overview of the glossary of terms.

A pilot survey consisting of the SIC questions were conducted with eleven participating hospitals to receive feedback on question format and the online tool. The final survey was sent to Ontario hospitals via email in December 2007. Participant satisfaction, ease of use, and data quality were assessed by various qualitative and quantitative feedback methods.

Survey Redevelopment

As per initial discussions with the Ontario Ministry of Health and Long Term Care and the Ontario Hospital Association, a condensed version of the SIC Survey was carried out in order to address specific areas.

Indicators proposed for the 2008 SIC survey fell into one of the following four categories:

1. Quality improvement (including the availability and use of clinical information technology)
2. Patient safety
3. Received extensive media attention in *Hospital Report 2007*
4. New indicator in Hospital Report 2007 (which allow for comparison in Hospital e-Scorecard Report 2008)

Also, the following question was added to the 2008 Survey: What are your top three patient safety or quality improvement initiatives? This question was asked in order to gauge hospital's key patient safety priorities.

It is important to note that there is no difference in methodology with the shortened version of the survey.

Describing the Survey Process

The survey was administered in December 2007. A total of 103 acute care hospitals completed and returned the surveys for a participation rate of approximately 82% from all acute care hospitals. Hospitals were asked to complete one survey for the entire corporation.

For the second year, a web-based survey was distributed via email to the Hospital e-Scorecard Report main contact at each organization. The Hospital e-Scorecard Report main contact disseminated the sections of the survey (via the custom-designed workflow of the online survey) to the person in the organization who possesses the most knowledge about topics covered in that section. At the end of each section, one individual was required to sign-off on a statement of accuracy. This statement required hospital personnel to confirm that their responses were accurate and reflected the current operating circumstances.

Hospitals were given approximately six weeks to complete the survey. One month after the initial distribution of surveys, reminder notices were sent to hospitals that had not yet completed the survey. Acute Care responses, by hospital type, are presented below.

Table 2.1: Acute Care SIC Surveys Completed

	Completed Surveys	Non-participating	Total
Teaching	17	1	18
Community	59	4	63

Small	27	17	44
All Hospitals	103	22	125

Data Quality and Verification

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.

CIHI analysts performed data quality checks on the completed surveys to ensure that all mandatory questions were answered and that skip logic, validation and question masking were performed correctly by the online survey. CIHI followed-up with seven hospitals via email and asked the Hospital e-Scorecard Report main contact to complete missing responses in a hard copy document. Analysts then entered this data into the populated database. Two analysts then developed SAS code for the indicator calculations independently of each other and compared results. 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.

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 and emails were 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.

Developing the Indicators

The seven SIC indicators used in *Hospital e-Scorecard Report 2008: Acute Care* are:

1. Use of Clinical Information Technology
2. Use of Data for Decision-Making
3. Healthy Work Environment
4. Patient Safety Reporting and Analysis
5. Performance Management in Ambulatory Care
6. Formalized Audit of Hand Hygiene Practices
7. Medication Documentation and Reconciliation

Once the surveys were completed, the process of confirming the questions to be used in the SIC indicator calculations for *Hospital e-Scorecard Report 2008: Acute Care* began. Response distributions were calculated for each question in the *2008 SIC survey*. Hospital-specific data for all Acute Care SIC indicators are available to hospitals in the e-Scorecard.

During the 2008 survey redevelopment process, there were no major modifications to the methodology or reweighing of indicators. However, please take caution when comparing

indicator results with previous years. For questions related to the survey redevelopment, please contact the Hospital Reports SIC team at sicsurvey@cihi.ca.

Scoring of the Indicator

A detailed description of the questions used and points allocated in the construction of each of the seven 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 multiply 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. The weighted scores are then summed for each question to get the overall score for that component of the indicator. For example:

Component Score =

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

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.

3. Detailed Description of the Indicator Calculations

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. This indicator consists of two components and is based on one question from section 1 and three questions from section 2.

Table 3.1: Use of Clinical Information Technology Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Use of Information Technology (53%)		
Section 1, Question 1	2	10%
Section 2, Question 4	12	23%
Section 2, Question 5a	7	20%
Component 2: Access to Information Technology (47%)		
Section 2, Question 3	60	47%
Total Score		100%

Component 1: Use of Information Technology (53%)

Component 1: Section 1, Question 1

This question inquired about the existence of staff roles currently within the organization. Only one role from this question is used as part of the scoring of this component, the following presents the score for each response.

Role used for scoring: Telehealth/videocare coordinator		
Response	Score	Total Point Allocation
This staff role does not exist	0 point	2 points
This staff role is under development	1 point	
This is a permanent role	2 points	
Maximum points for each item <i>Only one option can be selected</i>	2 points	
** 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.		

Component 1: Section 2, Question 4

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. Eight items from this question are used as part of the scoring of this component; the following presents the score for each response.

Item(s) used for scoring:		
<ul style="list-style-type: none"> • 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 • clinical documentation by other health professionals 		
Response	Score	Total Point Allocation
All paper	0 point	12 points (1.5*8)
Electronic as the primary source	1 point	
Electronic as the primary source and remote access is possible	1.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1.5 points	

Component 1: Section 2, Question 5a

Organizations were asked to indicate whether patient-care staff is currently able to perform seven specific functions online. All seven functions are used as part of the scoring of this component; the following presents the score for each response. The column regarding Emergency Department is not used in this indicator.

Item(s) used for scoring:		
<ul style="list-style-type: none"> • Accessing archived medical records • Accessing clinical data from previous visits of a patient • Recording workload data • Ordering diagnostic tests or imaging • Ordering supplies (pharmacy or other) • Making referrals to care providers, internal to the organization • Making referrals to care providers, external to the organization 		
Response	Score	Total Point Allocation
Could not be performed online by patient-care staff	0 point	7 points (1*7)
Could be performed online at the corporate level	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 2: Access to Information Technology (47%)

Component 2 : Section 2, Question 3a, b, c

Organization were asked to indicate the extent to which physicians, nurses, and other patient care staff currently have IT resources available to them. Respondents were asked to indicate the percent of staff that had access these resources. There are a total of 20 items from this question, and all items are as part of the scoring of this component. The following presents the score for each response.

Item(s) used for scoring:		
<ul style="list-style-type: none"> • All 20 rows listed in question 3 (a,b,c) 		
Response	Score	Total Point Allocation
None (0%)	0 point	60 points (3*20)
Few (<25%)	1 points	
Some (25-74%)	2 points	
Most (75 + %)	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

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 has five components and is based on two questions from section 1, one question from section 3, four questions from section 4 and five questions from section 9.

Table 3.2: Use of Data for Decision-Making Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Clinical Data Dissemination and Benchmarking (20%)		
Section 3, Question 6	55	20%
Component 2: Safety and Utilization Management (20%)		
Section 9, Question 63c	1	20%
Section 9, Question 63d	1	
Section 9, Question 63g	1.5	
Section 9, Question 65f	1	
Section 9, Question 65k	1	
Component 3: Staff Information-Based Roles (20%)		
Section 1, Question 1	30	10%
Section 1, Question 2a,b,c	27	10%
Component 4: Dissemination of Information (20%)		
Section 4, Question 7 and 8	20 + 5 = 25	10%
Section 4, Question 10	28	10%
Component 5: Benchmarking of Information (20%)		
Section 4, Question 9	4	20%
Total Score		100%

Component 1: Clinical Data Dissemination and Benchmarking (20%)

Component 1: Section 3, Question 6

Eleven 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 were collected and the degree to which the data were shared and benchmarked. If the organization was collecting data, they were asked whether they engaged in certain behaviours. There are a total of 11 clinical measures from this question, and all items are as part of the scoring of this component. The following presents the scoring for the responses.

Item(s) used for scoring:		
<ul style="list-style-type: none"> All 11 clinical measures listed in question 6 		
There are 5 possible points for each of the clinical measures		
Response	Score	Total Point Allocation
Data were not collected or Data were being collected but not shared	0 point	55 points (5 * 11)
Data were collected and shared with a senior medical staff group / group responsible for quality of care issues	1 point	
Data were collected and compared internally across specialties and/or to past performance	2 points	
Data were collected and compared externally with other organizations	2 points	
Maximum points for each item <i>Multiple options can be selected for each item</i>	5 points	
<p>** It is possible that some of these measures do not apply to all hospitals.</p> <ol style="list-style-type: none"> 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. If a hospital did not have an Emergency Department, responses to waiting time to gain access from the ED to inpatient bed were removed and the denominator was adjusted. The total point allocation for this question was 55 points. If organizations had less than 50 surgical cases AND did not have an ICU/CCU, this component was removed from the indicator and the denominator was adjusted. 		

Component 2: Safety and Utilization Management (20%)Component 2: Section 9, Question 63c

Organizations were asked whether the hospital's reporting system for actual and potential adverse events was recorded. The following presents the scoring for each submission method.

Response	Score	Total Point Allocation
No formal process has been developed or Other submission method	0 point	1 point
Written submission on standardized form	0.5 point	
Electronic submission	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 2: Section 9, Question 63d

This question asked whether or not the hospital maintained a registry of all sentinel events. The following presents the scoring for each of the responses.

Response	Score	Total Point Allocation
Organization did not maintain a registry of all sentinel events	0 point	1 point
Organization maintained a registry of all sentinel events	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 2: Section 9, Question 63g

Organizations were asked if they conducted at least one patient safety-related prospective analysis per year and implemented appropriate improvements or changes. The following presents the scoring for each of the responses.

Response	Score	Total Point Allocation
No plan or plans in development	0 point	1.5 points
Plan partially implemented	0.5 point	
A plan to be fully implemented in 2008	1 point	
A fully implemented plan	1.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1.5 points	

Component 2: Section 9, Question 65

Organizations were asked whether or not specific patient safety strategies were used to improve patient safety within the hospital.

Two strategies used for scoring:		
<p>1. <i>Designated 'patient safety officer'</i> This individual(s) 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.</p> <p>2. <i>An adverse event team/patient safety steering committee</i> This committee responds to all adverse events to mitigate harm to the patient and prevent further harm, curtail any undue punitive action, review events, and support family, staff and physicians.</p>		
Response	Score	Total Point Allocation
No strategy	0 point	1 point
A strategy was in place for specific departments	0.5 point	
A hospital-wide strategy was in place	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

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

Component 3: Section 1, Question 1

This question inquired about the existence of staff roles currently in the organization. Points were given based on the status of these staff roles. The following presents the scoring for the responses.

Staff roles used for scoring:		
<ul style="list-style-type: none"> • Decision support role • Utilization review analyst • Quality and/or risk management analyst 		
Response	Score	Total Point Allocation
The role was determined to be not applicable	-----	30 points (10 * 3)
The role did not exist	0 point	
The role was under development	5 points	
The role was permanent in the organization	10 points	
Maximum points for each item <i>Only one option can be selected</i>	10 points	
<p>** 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.</p>		

Component 3 : Section 1, Question 2 a, b, c

This question asked about participation in continuing education activities for staff. Three staff groups (physicians, nurses and other patient care staff) were used in the calculation of this indicator. Hospitals were asked to indicate the percent of staff who participated in three specific programs/activities. The following presents the scoring for the responses.

Staff groups used for scoring: Physicians, Nurses, Other patient care staff		
Programs/activities used for scoring:		
<ul style="list-style-type: none"> • Quality improvement/utilization management • Clinical management • Identifying and managing adverse events 		
Response	Score	Total Point Allocation
None (0%)	0 point	27 points (3*3*3)
Few (< 25%)	1 points	
Some (25-74%)	2 points	
Most (75 + %)	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Component 4: Dissemination of Information (20%)

Component 4: Section 4, Question 7 and 8

Both questions asked how organizations disseminated employee satisfaction results. Question 7 asked which strategies were currently in use to disseminate employee satisfaction results among different groups in the organization. In question 8, organizations were given points for using additional strategies to disseminate employee feedback. The following presents the scoring for the responses.

Response	Score	Total Point Allocation
Question 7		
Data Not Shared With This Group	0 point	25 points (4*5 + 1*5)
Internal Written Report is circulated about key highlights	1 point	
Verbal Presentation and Discussion of Results (e.g. in an open form) Targeting Quality Improvement Initiatives	3 points	
Maximum points for each item <i>Multiple options can be selected for each item</i>	4 points	
Question 8		
No Additional Strategies Were Used	0 points	25 points (4*5 + 1*5)
Results posted on hospital's Intranet	1 point	
Results posted on hospital's external Website	1 point	
Results posted in public areas in the hospital	1 point	
Results circulated internally (via newsletters, E-mails)	1 point	
Results circulated externally (via newsletters, E-mails)	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 4: Section 4, Question 10

This question asked how changes made as a result of patient satisfaction findings were disseminated amongst different groups in the organization. The following presents the scoring for the responses.

Groups used for scoring:		
<ul style="list-style-type: none"> • The Board or Board of Committees (including Committee/Task Force look at utilization) • Management Team • Physicians • Patient Care and other Hospital Staff • Staff/Committee/Task Force Focused on Quality Improvement • Community at Large • Current or Former Patients and their families 		
Response	Score	Total Point Allocation
Data Not Shared With This Group	0 point	28 points (4*7)
Internal Written Report is circulated about key highlights	1 point	
Verbal Presentation and Discussion of Results (e.g. in an open form) Targeting Quality Improvement Initiatives	3 points	
Maximum points for each item <i>Multiple options can be selected for each group</i>	4 points	

Component 5: Benchmarking of Information (20%)

Component 5: Section 4, Question 9

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 and which staff groups it applied to.

Response	Points	Total Point Allocation
There is no external benchmarking practices for any of the following staff and physician satisfaction data	0 point	4 points (1*4)
Physician Satisfaction	1 point	
Nurse (RNs, RPNs) satisfaction	1 point	
Other patient care staff (excluding physicians) satisfaction	1 point	
Other hospital staff satisfaction	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Indicator 3: 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 employees' physical, social, mental and emotional well-being. Four components and eleven questions from section 5 were used to calculate this indicator. This year, the Healthy Work Environment indicator is calculated across all sectors. **Note:** Hospitals who participated in multiple sectors would have the same Healthy Work Environment score across all sectors. However, the provincial average and performance allocation for that indicator would vary because it is based on participating hospitals within that sector only.

Table 3.3: Healthy Work Environment Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Healthy Workplace Plan/Policy (30%)		
Section 5, Question 13a	3	30%
Section 5, Question 13b	2	
Component 2: Accountability & Responsibility (10%)		
Section 5, Question 14a	3	10%
Section 5, Question 14b	3	
Component 3: Assessment, Analysis, and Improvement (20%)		
Section 5, Question 15a	3	20%
Section 5, Question 15b	22	
Section 5, Question 15c	16	
Component 4: Key Dimensions (40%)		
Section 5, Question 16	18	27%
Section 5, Question 17a	3	13%
Section 5, Question 17b	4	
Section 5, Question 17c	3	
Total Score		100%

Component 1: Healthy Workplace Policy/Plan (30%)**Component 1: Section 5, Question 13a**

Organizations were asked if their healthy workplace policy/plan extended beyond policies mandated by health and safety legislation.

Response	Points	Total Point Allocation
No	0 points	3 points
Yes	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Component 1: Section 5, Question 13b

This question asked if the organization's healthy workplace policy/plan was based on an employee needs assessment.

Response	Points	Total Point Allocation
There was <i>no</i> assessment process in place to evaluate employee needs, attitudes and preferences in regard to healthy workplace programs	0 point	2 points
There was <i>an informal</i> assessment process in place to evaluate employee needs, attitudes and preferences in regard to healthy workplace programs	1 point	
There was <i>a formal</i> assessment process in place to evaluate employee needs, attitudes and preferences in regard to healthy workplace programs	2 points	
Maximum points for each item <i>Only one option can be selected</i>	2 points	

Component 2: Accountability & Responsibility (10%)**Component 2: Section 5, Question 14a**

This question asked if accountability and responsibility for healthy workplace initiatives were formally assigned within the organization.

Response	Points	Total Point Allocation
No	0 points	3 points
Yes	3 points	
Maximum Points for each item <i>Only one option can be selected</i>	3 points	

Component 2: Section 5, Question 14b

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.

Response	Points	Total Point Allocation
Senior Management	1 point	3 points (2 + 1)
Accountability and responsibility were shared broadly throughout the organization	2 points	
Maximum Points for each item <i>Only one option can be selected</i>	2 points	

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

Component 3: Section 5, Question 15a

Organizations were asked if there were processes in place to assess and analyze the organization’s approach to healthy workplace issues.

Response	Points	Total Point Allocation
No	0 points	3 points
Yes	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Component 3: Section 5, Question 15b:

Organizations were asked to identify which of the 11 outcomes listed in Question 15b associated with developing a healthy workplace were collected and analyzed within the organization.

Outcomes used for scoring:		
<ul style="list-style-type: none"> All 11 Outcomes listed in question 15b 		
Response	Points	Total Point Allocation
This was not analyzed	0 point	22 points (2*11)
This is analyzed informally	1 point	
This is analyzed formally	2 points	
Maximum points for each item <i>Only one option can be selected</i>	2 points	

Component 3: Section 5, Question 15c

This question asks organizations how they disseminated information about the outcomes associated with their healthy workplace policy/programs.

Groups used for scoring:		
<ul style="list-style-type: none"> The Board or Board of Committees Management Team Physicians Patient Care and other Hospital Staff 		
Response	Points	Total Point Allocation
Data not Shared with this group	0 points	16 points (4*4)
Internal written report is circulated about key highlights	1 point	
Verbal Presentation and Discussion of results (e.g. in an open forum)	3 points	
Results reviewed beyond the initial verbal presentation for a specific initiative		
Maximum points for each item <i>Multiple options can be selected for each item</i>	4 points	

Component 4: Key Dimensions (40%)

Component 4: Section 5, Question 16

Organizations were asked about 7 processes in place to support a positive psychosocial environment.

Processes used for scoring:		Total Point Allocation
<ul style="list-style-type: none"> • Job Definition and Clarification of Work Roles • Orientation Programs • Assessment of Existing workloads and contrasting them with current staffing patterns and Patient/Client demands • Recognition of Diversity • Provide work opportunities sensitive to the needs of older workers 		
Response	Points	18 points (2*5 + 4*2)
This was not undertaken	0 points	
This was undertaken informally	1 point	
This was undertaken formally	2 points	
Maximum points for each item <i>Only one option can be selected</i>	2 points	
Processes used for scoring:		
<ul style="list-style-type: none"> • Participation of front-line employees in decision-making and overall control of their jobs • Creating innovative schedules, hours of work and job sharing arrangements to meet the needs of work settings 		
Response	Points	
This was not undertaken	0 points	
This was undertaken informally	2 points	
This was undertaken formally	4 points	
Maximum points for each item <i>Only one option can be selected</i>	4 points	

Component 4: Section 5, Question 17a

This question asked if there were one or more healthy lifestyle programs offered by your organization.

Response	Points	Total Point Allocation
No	0 points	3 points
Yes	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Component 4: Section 5, Question 17b

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.

Response	Points	Total Point Allocation
A formal approach to education and skill development that extends beyond simply providing written information	1 point	4 points (1*4)
Assessment of behaviour change among employees due to use of healthy lifestyle programs	1 point	
Monitoring/evaluation of utilization of programs	1 point	
Long term planning including allocation of financial resources	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 4: Section 5, Question 17c

Organizations were asked if their program(s) were developed (or lack thereof) based on an employee needs assessment.

Response	Points	Total Point Allocation
No	0 points	3 points
Yes	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	
N.B.: If organizations answered in Q17a='NO' and Q17c='YES', then Q17 was removed from the component and the key dimensions component was composed of Q16 only.		

Indicator 4: 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. Two components and five questions from section 9 were used to calculate this indicator.

Table 3.4: Patient Safety Reporting and Analysis Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Patient Safety Reporting Processes (80%)		
Section 9, Question 63b	1.5	20%
Section 9, Question 63d	1	20%
Section 9, Question 63e	1.5	20%
Section 9, Question 65h	1	20%
Component 2: Patient Safety Analysis Activities (20%)		
Section 9, Question 65L	1	20%
Total Score		100%

Component 1: Patient Safety Reporting Processes (80%)**Component 1: Section 9, Question 63b**

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.

Response	Points	Total Point Allocation
No plans for developing this process	0 points	1.5 points
In development with no target date for implementation	0.5 points	
Partially implemented – developed but to be implemented in stages; target date for full implementation: 20__	0.5 points	
To be developed in 2008 for full implementation in 2009	1 point	
Fully implemented in our hospital	1.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1.5 points	

Component 1: Section 9, Question 63d

This question asked hospitals if they maintained a registry of all sentinel events.

Response	Points	Total Point Allocation
No	0 points	1 point
Yes	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 1: Section 9, Question 63e

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.

Response	Points	Total Point Allocation
No plans for developing this process	0 points	1.5 points
In development with no target date for implementation	0.5 points	
Partially implemented – developed but to be implemented in stages; target date for full implementation: 20__	0.5 points	
To be developed in 2008 for full implementation in 2009	1 point	
Fully implemented in our hospital	1.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1.5 points	

Component 1: Section 9, Question 65h

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.

Response	Points	Total Point Allocation
No plans for development <i>or</i> currently under development	0 points	1 point
In specific departments only	0.5 points	
Hospital wide	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 points	

Component 2: Patient Safety Analysis Activities (20%)

Component 2: Section 9, Question 65L

This question asked whether or not hospitals conducted targeted chart audits as a current strategy to improve patient safety.

Response	Points	Total Point Allocation
No plans for development <i>or</i> currently under development	0 points	1 point
In specific departments only	0.5 points	
Hospital wide	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 points	

Indicator 5: 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 components and three questions from section 4 were used to calculate this indicator.

Table 3.5: Performance Management in Ambulatory Care Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Use and Monitoring of Performance Indicators Internally		
Section 4, Question 11 (row c)	3	41%
Component 2: Use and Monitoring of Performance Indicators Externally		
Section 4, Question 11 (row d)	3	26%
Component 3: Use of Ongoing Quality Improvement Projects		
Section 4, Question 11 (row e)	3	33%
Total Score		100%

Component 1: Use and Monitoring of Performance Indicators Internally (41%)**Component 1: Section 4, Question 11 (row c)**

This question asked what proportion of hospitals' ambulatory care clinics monitored performance indicators internally.

Response	Score	Total Point Allocation
None (0%)	0 point	3 points
Few (< 25%)	1 points	
Some (25-74%)	2 points	
Most (75 + %)	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Component 2: Use and Monitoring of Performance Indicators Externally (26%)**Component 2: Section 4, Question 11 (row d)**

This question asked what proportion of hospitals' ambulatory care clinics monitored performance indicators externally.

Response	Score	Total Point Allocation
None (0%)	0 point	3 points
Few (< 25%)	1 points	
Some (25-74%)	2 points	
Most (75 + %)	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Component 3: Use of Ongoing Quality Improvement Projects (33%)**Component 3: Section 4, Question 11 (row e)**

This question asked what proportion of the hospital's clinics currently has ongoing quality improvement initiatives.

Response	Score	Total Point Allocation
None (0%)	0 point	3 points
Few (< 25%)	1 points	
Some (25-74%)	2 points	
Most (75 + %)	3 points	
Maximum points for each item <i>Only one option can be selected</i>	3 points	

Indicator 6: Formalized Audit of Hand Hygiene Practices

The Formalized Audit of Hand Hygiene Practices indicator was designed to measure the extent to which hand hygiene practices are audited, the frequency in which they are monitored, and whether they are used as criteria for performance appraisal for all staff in the organization. Three components and three questions from section 9 were used to calculate this indicator.

Table 3.6: Formalized Audit of Hand Hygiene Practices Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Auditing Hand Hygiene Practices		
Section 9, Question 59c	1	33.3%
Component 2: Frequency of Monitoring Hand Hygiene Practices		
Section 9, Question 59e	1	33.3%
Component 3: Criteria for Performance Appraisal		
Section 9, Question 59g	1	33.3%
Total Score		100%

Component 1: Auditing Hand Hygiene Practices (33.3%)

Component 1: Section 9, Question 59c

This question asked whether the organization had a fully implemented formal mechanism for auditing hand hygiene practices.

Response	Points	Total Point Allocation
No	0 points	1 point
Yes	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 2: Frequency of Monitoring Hand Hygiene Practices (33.3%)

Component 2: Section 9, Question 59e

This question asked about the frequency of hand hygiene monitoring.

Response	Points	Total Point Allocation
Unknown	0 points	1 point
Annually	0.5 points	
Monthly	1 point	
Weekly	1 point	
Other	0.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Component 3: Criteria for Performance Appraisal (33.3%)

Component 3: Section 9, Question 59g

This question asked whether the organization used hand hygiene practice as a criterion for performance appraisal for all staff.

Response	Points	Total Point Allocation
No	0 points	1 point
Yes	1 point	
Maximum points for each item <i>Only one option can be selected</i>	1 point	

Indicator 7: Medication Documentation and Reconciliation

The Medication Documentation and Reconciliation indicator was designed to measure the extent to which hospital staff document, reconcile and discuss complete lists of patient medications. Two components and two questions from section 9 were used to calculate this indicator.

Table 3.7: Medication Documentation and Reconciliation Indicator Summary

Question	Total Possible Points	Overall Weighting
Component 1: Documentation of Medications upon Admission		
Section 9, Question 62a	1.5	50%
Component 2: Reconciliation and Communication of Medication Information upon Referral or Transfer		
Section 9, Question 62c	1.5	50%
Total Score		100%

Component 1: Documentation of Medications upon Admission (50%)**Component 1: Section 9, Question 62a**

This question asked whether the organization documents a complete list of each patient's current medications upon admission.

Response	Points	Total Point Allocation
No plans for developing this process	0 points	1.5 points
In development with no target date for implementation	0.5 points	
Partially implemented – developed but to be implemented in stages; target date for full implementation: 20__	0.5 points	
To be developed in 2008 for full implementation in 2009	1 point	
Fully implemented in our hospital	1.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1.5 points	

Component 2: Reconciliation and Communication of Medication Information upon Referral or Transfer (50%)**Component 2: Section 9, Question 62c**

This question asked whether the complete list of the patient's medications is reconciled and communicated to the next provider of health care service when the patient is referred or transferred to another setting, service, practitioner, or level of care within or outside of the hospital.

Response	Points	Total Point Allocation
No plans for developing this process	0 points	1.5 points
In development with no target date for implementation	0.5 points	
Partially implemented – developed but to be implemented in stages; target date for full implementation: 20__	0.5 points	
To be developed in 2008 for full implementation in 2009	1 point	
Fully implemented in our hospital	1.5 points	
Maximum points for each item <i>Only one option can be selected</i>	1.5 points	

4. Performance Allocation Methodology: Acute Care

As in previous 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 seven indicators derived from the *Hospital e-Scorecard Report 2008 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 survey. 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 Rate Model. Please refer to www.jppc.org for more information.

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

The performance allocation method used in the Hospital e-Scorecard Report 2008 SIC indicators determines the upper and lower cut points based on the 95th percentile as above average and the 5th percentile as below average. This interval should capture roughly 90% of the indicator values. This method does not require normality and bounded the cut points within 0 to 100. This method is consistent among all sectors of the System Integration and Change quadrant.

Table 4.1 shows the cut off values for each of the indicators. Hospitals with scores above or below these cut points were respectively identified as hospitals with above or below average levels of performance.

Table 4.1 Indicator Values Differentiating the Three Performance Categories in *Hospital e-Scorecard Report 2008: Acute Care* for Teaching/Community Hospitals

Indicator	Below Average Performance Cut Off	Above Average Performance Cut Off	Total Possible Score
<i>Teaching/ Community Peer Group</i>			
Use of Clinical Information Technology	42.20	89.78	100.00
Use of Data for Decision-Making	36.16	93.18	100.00
Healthy Work Environment	25.00	99.51	100.00
Patient Safety Reporting and Analysis	46.67	100.00	100.00
Performance Management in Ambulatory Care	11.00	100.00	100.00
Formalized Audit of Hand Hygiene Practices	0.00	100.00	100.00
Medication Documentation and Reconciliation	33.33	100.00	100.00
<i>Small Hospital Peer Group</i>			
Use of Clinical Information Technology	14.47	73.14	100.00
Use of Data for Decision-Making	20.85	62.34	100.00
Healthy Work Environment	26.33	92.12	100.00
Patient Safety Reporting and Analysis	46.67	100.00	100.00
Performance Management in Ambulatory Care	11.00	100.00	100.00
Formalized Audit of Hand Hygiene Practices	0.00	83.33	100.00
Medication Documentation and Reconciliation	33.33	100.00	100.00

It is important to consider the meaning and value of these cut points. 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, however, the results need to be interpreted somewhat cautiously since 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 hospital's results.

From a performance improvement standpoint, a teaching/community hospital achieving a score of 33 on the Formalized Audit of Hand Hygiene Practices, while identified as having an “average” level of performance, would have minimal formalized hand hygiene practices in place. This score indicates that there is considerable opportunity for improvement in this area for such a hospital.