

**New Measures of Ambulatory Care  
Performance in Ontario:  
Preliminary System Snapshot, 2006**

*Jillian Paul  
Neil Seeman  
Anna Gagliardi  
Shevani Mahindra  
Paula Blackstien-Hirsch  
Adalsteinn D. Brown*

# TABLE OF CONTENTS

Executive Summary .....	1
Introduction .....	2
Background and Project Rationale .....	2
The Growth in Outpatient Care in Ontario .....	3
Definition and Scope of Analysis .....	4
Methods .....	5
Clinical Utilization and Outcome .....	6
Background.....	6
Findings .....	7
System Integration and Change.....	8
Background.....	8
Findings .....	9
Patient Satisfaction .....	18
Survey and Response .....	18
Results.....	18
Financial Performance and Condition .....	20
Background.....	20
Findings .....	20
Conclusion .....	21
Ambulatory Care as a Strategic Priority .....	21
Appendix .....	23
Indicators Proposed by Panel.....	23
Indicators Reported in Hospital Report 2006 - Acute Care .....	23
References.....	24

## **List of Figures**

Figure 1: Net Expenses by Patient Level .....	2
Figure 2: Inpatient ACSC Rates Across LHINs .....	8
Figure 3: Ambulatory Care - SIC Indicator Results .....	11
Figure 4: Comparison of Peer Group Scores on Use of Performance Management .....	13
Figure 5: Comparison of SIC Scores by Peer Group .....	14
Figure 6: Comparison of SIC Scores by LHIN .....	15
Figure 7: Patient Satisfaction in Ambulatory Care Compared to Inpatient and ED .....	20

## **EXECUTIVE SUMMARY**

Ambulatory care is an essential and growing component of hospital care and as such, interest in accountability and performance measurement within the area of hospital-based ambulatory care is growing. In previous *Hospital Reports*, Emergency Department Care and Day Surgery were reported but this year, the development of indicators in the more general area of ambulatory care was proposed in response to feedback from stakeholders at successive *Hospital Report* regional information sessions.

The nature and scope of ambulatory care clinic services vary considerably from hospital to hospital on account of variations in perceived patient and community needs and the extent to which various types of clinics located throughout a hospital are classified as ambulatory care. Accordingly, identifying and prioritizing ambulatory care performance indicators relevant to most or all Ontario hospitals was challenging. The research team tried to address this challenge by consulting with hospital managers in Ontario to develop and narrow the definition and scope of the investigation. Additionally, with the use of advisory panels, we identified indicators in all four quadrants using established *Hospital Report* processes. Although only three indicators are reported within the *Acute Care 2006* report in two quadrants (system integration and change and clinical utilization and outcomes), this report focuses on the development process, the reasons for reporting only a few indicators, and considerations for future reporting initiatives.

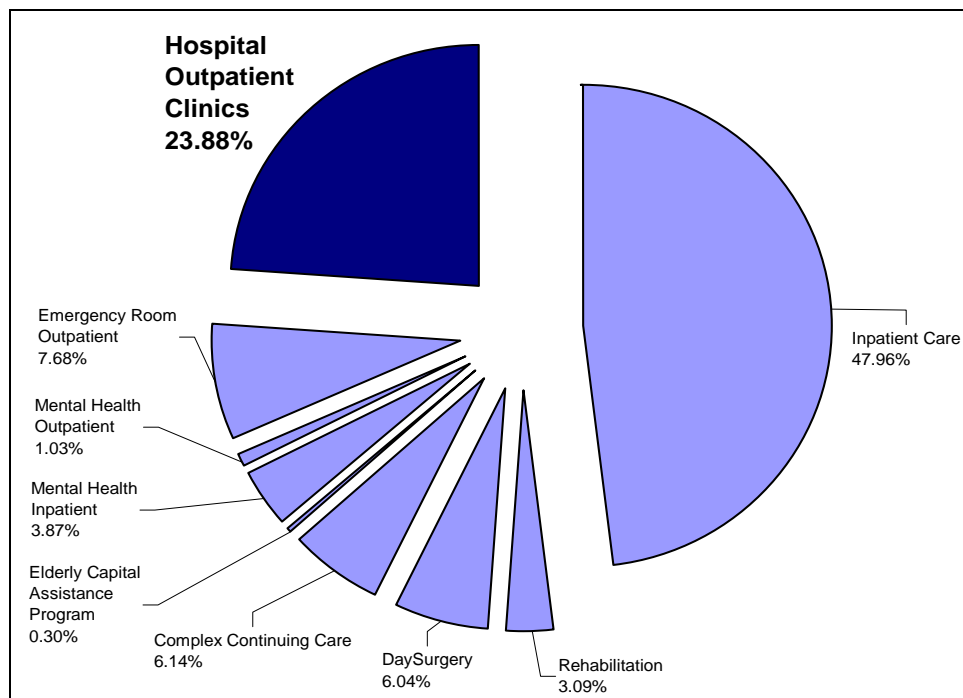
## INTRODUCTION

### Background and Project Rationale

In recent years, hospital-based ambulatory care services across Ontario have evolved rapidly – in terms of scope, expenditure and complexity. Volumes of ambulatory care activity, both in terms of raw numbers and as a proportion of overall hospital-based services, have increased substantially in Ontario. Multiple forces are at play in explaining this evolution, notably an increase in patient-focused care philosophies, a heightened concern for financial efficiency, and the adoption of new technologies enabling an increasing number of services to be performed on an outpatient basis. However, data-reporting mechanisms and the availability of quality data to support the effective performance measurement of ambulatory care activity across Ontario are in need of expansion and refinement.

Along with the rise in the volumes of ambulatory services, the associated costs for ambulatory care have been increasing steadily. For the 2003/04 fiscal year, roughly \$2.6 billion was allocated to hospital-based ambulatory care services (including emergency department care) (JPPC, Ontario Cost Distribution Methodology). This represents growth of 19% from 1995/96, when the province allocated \$1.5 billion of hospital operating expenses to ambulatory care. In 2004/05, hospital ambulatory care<sup>1</sup> expenses accounted for 24% of total hospital expenditures.

**Figure 1: Net Expenses by Patient Level**



Source: Ontario Cost Distribution Methodology Data for 2004/05

<sup>1</sup> As shown in figure 1, this percentage includes only those costs associated with outpatient clinics

## **The Growth in Outpatient Care in Ontario**

The trend toward ambulatory care in the broadest sense of the term – i.e., outpatient care for which the patient is not admitted for an overnight stay – is associated with other profound cultural and fiscal trends affecting the hospital sector. These underlying trends include:

1. The need to curtail growing hospital expenditures
2. The enthusiasm for multidisciplinary care teams
3. The demand for improved “customer-focused” care
4. The desire for increased access at the community level

Cost-effectiveness is a growing rationale for ambulatory care activity because the shift from the inpatient to outpatient setting is thought to result in a more cost-effective quality of care. To the extent that this may be true, measuring this trade-off is a challenge. Although Ontario hospitals currently report how much of their total expenditure is allocated to ambulatory care services, it is often difficult to determine the resources allocated to each individual clinic. Further, and a more substantial measurement challenge, is the fact that the definition of an “ambulatory clinic” differs across hospitals. The need to compare costs for similar clinics across hospitals is critical to an understanding of the cost-effectiveness of ambulatory care activity; however, considerable problems surface in data comparability across non-standardized clinics.

Multidisciplinary care provision is considered important in ambulatory care service because it potentially allows for the simultaneous assessment and treatment of a variety of ambulatory care sensitive conditions (ACSCs). From the patient care perspective, a multidisciplinary team approach allows for the provision of more timely care in ambulatory settings (Collett and Cordle, 2000) and potentially encourages a more holistic investigation of the patient’s clinical and emotional needs.

An increasing body of literature suggests that the expansion of ambulatory care may result in greater patient satisfaction. In theory, this stems from the notion that ambulatory care is more convenient for the patient, enables more flexibility in scheduling, engages the patient in his or her own care (e.g., through practices learned in a diabetes education clinic) and offers greater provider continuity. Observers point to the greater customer-oriented philosophy of the ambulatory care clinic setting, as revealed by a number of management practices – such as the provision of simple-to-understand clinically relevant information – that have been introduced in different clinics to make the patient feel more comfortable and empowered (Rondeau, 1998).

Another attributed benefit to elevated ambulatory care activity is increased patient access to care (which, depending on the service, may not be borne out in practice). Timelier access may be achieved by centralizing several medical disciplines into one clinic visit and by coordinating clinic visits with diagnostic testing procedures. A multidisciplinary care team is thus a precondition of the improved access that ambulatory clinics can provide to patients (Adams, 2002). Clinic staffing can be designed to accommodate periods of anticipated spikes in demand; appointment lengths and types can be streamlined, thereby enabling what the U.S. Institute for Healthcare Improvement has called “advanced access” scheduling (IHI, 2006).

Ambulatory care services have also grown with the adoption of new technologies – diagnostics, telehealth, and less invasive surgical procedures. According to a Toronto District Health Council report (2002), the following factors have been instrumental in the growth of hospital-based ambulatory care services: (a) advances in medical and surgical instrumentation and techniques and, (b) new pharmaceutical products, particularly anesthetics that reduce recovery time from treatments and diagnostic procedures.

Added to this list of contributing factors has been an increased public awareness of the nosocomial risks in hospital settings, heightened by recent infectious-disease outbreaks. This has strengthened the push for shortening hospital stays and avoiding, to the extent possible, overnight hospitalization.

### **Definition and Scope of Analysis**

Given the trends in hospital-based ambulatory care cited above, *Hospital Report* set out to create indicators to measure ambulatory care performance. Although researchers in the United States have developed a number of indicators to measure ambulatory care performance, the majority of these either do not apply to hospitals across Ontario or the data to measure these indicators is not available. Prior to this analysis, the only ambulatory care services reported through *Hospital Report* related to emergency department care and day surgery. Our original research goal was to develop indicators that would pertain to all quadrants of *Hospital Report* – clinical utilization and outcomes (CUO), system integration and change (SIC), financial performance and condition, and patient satisfaction.

Adhering to a clear, workable definition of ambulatory care is important to this research initiative. Since different priorities and multiple care models for hospital-based ambulatory care services have existed for decades, there are several definitions of ambulatory care in use today – many of which are vague or inapplicable to the Ontario context. In order that the definition conforms to the reality of current Ontario hospital practice and in order to avoid, to the extent possible, inappropriate comparisons among different sites and regions, we tested various working definitions by contacting ambulatory care directors and managers in hospitals across Ontario. Overall, respondents had a difficult time recommending a consensus-based definition for ambulatory care and suggested that it will likely be an evolving concept. Based on our review of the literature and on input from hospital staff, a definition was created for the purpose of developing HRRC indicators, although it will remain a working definition and will need modification as the services offered in ambulatory care departments evolve across the province.

### **Ambulatory Care: A Working Definition**

Ambulatory care includes single- or multi-disciplinary diagnostic, therapeutic, and adjunct secondary prevention and educational services for non-admitted patients that are hospital- or community-based, or offered in partnership with other organizations; and which are managed by the hospital with funding from either global budgets or from multiple cost centres.

We have restricted the definition to “clinics” to ensure as much as possible that measured ambulatory services are within the direct organizational control of individual hospital corporations. We have further restricted the term to include only those services funded via the hospital’s global budget in order to exclude delisted clinic services (i.e. chiropractic services, naturopathy). At this time we are also excluding solo physician practices (both within and outside hospitals), which are not generally defined as ambulatory care “clinics.” The term “clinic” designates multiple service providers (either of the same or of different disciplines) working in cooperation in a particular field or disease area and sharing the same facilities.

For the purposes of this initial indicator development, the focus of our work was on traditional hospital-based ambulatory care clinics. We excluded areas that *Hospital Report* already measures in other sector reports, such as day surgery and emergency care and mental health. Input from our expert panel indicated that it is important to identify specific tracer or high-volume clinics to meaningfully measure or compare hospitals. By consensus, the conditions or clinics that were chosen for inclusion were cardiac care, diabetes, chronic obstructive pulmonary disease (COPD), asthma, and renal dialysis. Indicators that were initially put forward for panel consideration spanned all quadrants of the Balanced Scorecard, as will be reflected in the content of this report.

## **Methods**

Consistent with all other indicator development associated with the *Hospital Report* project, this initiative included a substantial literature review, an expert nomination and panel process and indicator feasibility testing. HRRC indicators were finalized by an expert panel using a modified Delphi approach (HRRC, 2005). This technique involved exercises completed on a single day by an expert panel after significant advance analysis and preparation. First, HRRC researchers extracted potential indicators from the literature; an expert panel was then identified through a nomination process involving hospital CEOs applying criteria determinative of the potential panel members’ content expertise in the understanding of hospital-based ambulatory care. Although members were selected in part to reflect a diverse representation of hospital type (i.e., size and location), the primary determinant for panel composition was expertise.

During the panel process, proposed indicators were compiled into a questionnaire that panelists were asked to complete, followed by group discussion of the results in order to reach consensus. In the questionnaire, panelists were asked to rate the indicators on a 7-point Likert scale according to three criteria which together represent a distillation of the HRRC “First Principles” associated with quality indicators (Baker and Pink, 1995):

- 1) *the indicator is associated with care quality according to available evidence;*
- 2) *actionability: the organization and delivery of care could be modified if found lacking according to the indicator; and,*
- 3) *the majority of providers would find comparative data on this indicator of value for benchmarking purposes.*

Indicators requiring further assessment were included in a second questionnaire. Again, the panelists were asked to review the results in order to reach consensus. Finally, panelists were asked to prioritize indicators selected from completion and discussion of

the first and second questionnaire rounds. Indicators selected by panels then underwent feasibility assessment. This process involved refining indicator definitions and identifying data sources from which the indicators could be measured.

## **CLINICAL UTILIZATION AND OUTCOMES**

### **Background**

For the clinical utilization and outcomes quadrant of *Hospital Report*, our expert panel identified three potential clinical indicators for measurement relating specifically to hospital-based ambulatory care. The indicators chosen were; Rate of hospitalization for ambulatory care sensitive conditions, Proportion of ambulatory visits that result in unplanned hospital admission for related diagnosis within a specific timeframe, and Adverse events within the ambulatory care setting. After feasibility testing, the ambulatory care sensitive conditions indicator was the only one that could realistically be measured. Data for both adverse events within the ambulatory setting as well as unplanned hospital admissions were not available for all clinics selected by our panel from the National Ambulatory Care Reporting System (NACRS).

NACRS highlights three clinics for which data is reported and available (cardiac catheterization, oncology and renal dialysis). Although renal dialysis was one of the conditions chosen by our panel, the remaining four tracer conditions (CHF, COPD, Asthma, Diabetes) are not mandated by NACRS. Therefore, because most of the chosen conditions could not be reported on, it was decided that the indicators using these conditions would not be included.

The clinical indicator that was included in *Hospital Report: Acute Care 2006* explored admissions to hospital for ambulatory care sensitive conditions (ACSC). When people with certain long-term or chronic health problems such as diabetes or asthma are able to obtain timely services in an ambulatory or community setting, their health status may improve and they are therefore less likely to require costly hospital services. Adequate and accessible care in the ambulatory care setting may prevent the need for hospital care (Oster and Bindman, 2003). It is therefore an assumption that appropriate advance ambulatory care can prevent or alleviate the onset of an illness or condition, control an acute episodic illness or condition, or manage a chronic disease or condition (Statistics Canada, 2005). Moreover, Brown et al (2001) suggest that ACSCs are a negative indicator of access, with the rate of hospitalization for ACSCs rising higher in communities with poor access to ambulatory care.

There is a growing consensus among health professionals that managing these conditions *before* a patient requires hospitalization generally improves a patient's health, contributes to better overall community health status and often saves on expenses since hospital-based care usually demands more high-cost resources than outpatient care. Optimizing the management and treatment of these conditions will thus lead to both improved patient health outcomes and more efficient resource utilization. The optimal level of utilization is not known although higher rates of admission for ACSC often highlight problems in obtaining access to care in the outpatient or community setting.

The Ambulatory Care Sensitive Conditions (ACSC) indicator is calculated for each of the hospitals that agreed to be included in the 2006 *Acute Care Report*. This is a new indicator for this year, responding to the increased desire to measure and report beyond the inpatient setting. This indicator is reported at both a provincial level and a LHIN level and is risk-adjusted accordingly. Literature pertaining to the conditions that would apply to this indicator was reviewed and, in addition, an expert panel was nominated and consulted. Current reporting in Ontario surrounding ACSCs was also taken into account. So as not to confuse and complicate current reporting in Ontario, *Hospital Report* decided to define this indicator using the same conditions as Statistics Canada and subsequently the Ministry of Health and Long-Term Care, with minor revisions (please see Statistics Canada, 2005). The conditions that are included in this indicator are as follows:

- Asthma
- Angina
- Congestive Heart Failure
- Hypertension
- Epilepsy
- Diabetes

***Indicator Definition: Ambulatory Care Sensitive Conditions (ACSC)***

Inpatient hospitalization rate for conditions where appropriate ambulatory care has the potential to prevent or reduce the need for admission to hospital

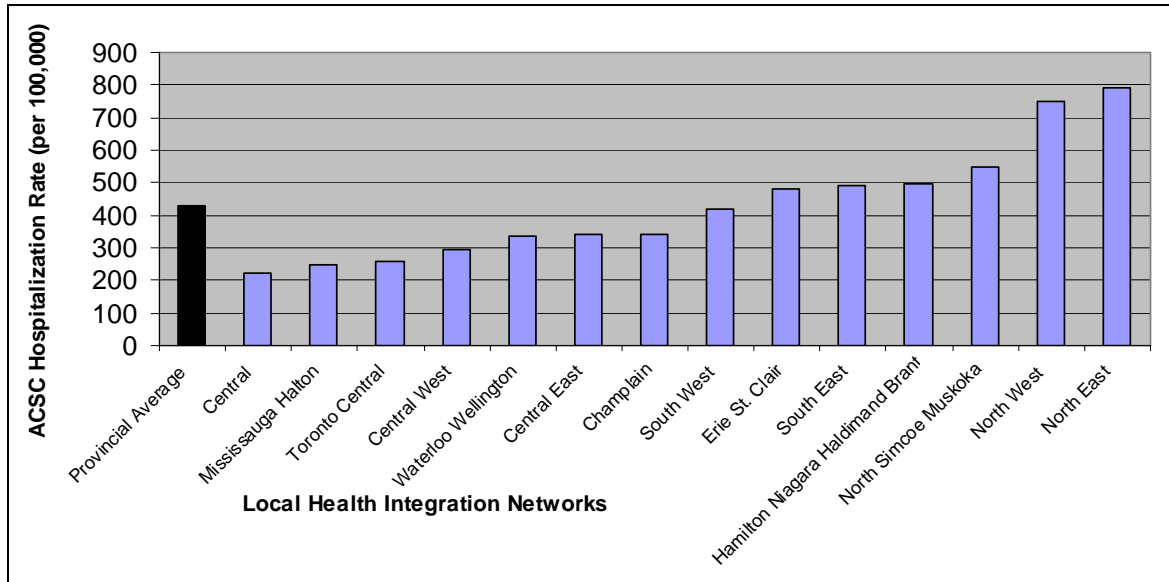
***Calculation***

Total number of hospital inpatient admissions for ambulatory care sensitive conditions (ACSC) / Per 100,000 population

**Findings**

As is evident in Figure 2, the rates of ACSC admission to inpatient is inconsistent across LHINs. This might present the need to explore primary care strategies, chronic disease self-management initiatives, and other ambulatory services in those regions with higher rates of admission per 100,000 population. This is a population-based indicator and therefore it is not relevant to report on this indicator at a hospital level. This is because the outcome of this indicator is measured at a community or LHIN level. The conditions included in this indicator were chosen because if patients are managed properly in the community, it would lessen the extent to which they are admitted to a hospital. Therefore, the outcome or responsibility of this indicator falls on the community or LHIN for which the hospital is located. Figure 2 represents all 14 LHINs and 122 hospitals. The provincial average (average of all 14 LHINs) is 429 ACSC hospitalizations to inpatient per 100,000 population (0.4%).

**Figure 2: Inpatient ACSC Rates Across LHINs**



Those LHINs that are more central to Ontario and include a higher number of larger, teaching hospitals seemed to have an ACSC rate less than the overall provincial average. Although an optimal rate of ACSC is still unknown, we can, at this stage, infer that a lower rate is better for this indicator, making the lower values the most desirable.

## SYSTEM INTEGRATION AND CHANGE

### Background

The System Integration and Change (SIC) quadrant for *Hospital Report: Acute Care 2006* focuses on indicators that assess efforts and investments made by hospitals to improve linkages with other healthcare providers, to use information technology for improved decision-making, and to support human resources. In addition, four new indicators for 2006 focus on hospital culture and reporting processes related to patient safety, and strategies for performance management and wait time management in ambulatory care clinics. With respect to ambulatory care management indicators, our expert panel identified eight potential indicators for measurement, which resulted in the creation of 19 questions in the SIC survey.

We used a survey method to collect these data since they were not otherwise available from existing administrative datasets. Researchers from the Canadian Institute for Health Information (CIHI), working in collaboration with HRRC researchers, distributed the survey and conducted follow-up. In total, 109 acute care hospitals completed the survey, with data collected in January 2006; all of the 14 LHINs and the 3 peer groups (i.e., small, community and large hospitals, as designated by the 2005 Joint Policy and Planning formula) are represented.

After feasibility testing, only two indicators were published in *Hospital Report: Acute Care 2006* (at a provincial level) and in the HRRC electronic scorecard (at a hospital-

specific level). The new ambulatory care indicators in the SIC quadrant focus on the strategies and investments that hospitals have implemented to (a) more effectively manage the waiting experience in ambulatory care clinics, and (b) apply performance management processes in ambulatory care clinics.

Additional potential ambulatory care performance indicators for the SIC survey, chosen by the expert panel but not selected as final indicators, focused on: the use of supplementary health care professionals in select ambulatory service clinics to enhance the service of the health care provided; changes made by hospitals in their information technology (via the use of computerized lists and formal processes to manage clinic wait lists); methods of internal and external communication to convey patient test/diagnostic results; and the capacity to involve family members/caregivers in the treatment plan provided by the clinic. These potential indicators were not included in *Hospital Report: Acute Care 2006* due to poor data quality and/or due to interpretation problems associated with several of the survey questions themselves. A consistent complicating factor was the large variation in the types of clinics in different hospitals; the clinics specified in the surveys were, in many cases, not relevant to the respondent hospitals.

## **Findings**

### **A. Strategies to manage the waiting experience in ambulatory care clinics**

If effective strategies are in place to manage the waiting experience in ambulatory care clinics, patients may perceive waiting times to be less onerous than they, in fact, are (Fottler, 2002). Our panel further determined that it is essential to manage clinic waits by catering to the patient's needs using activities and by providing clinically-relevant information. In addition, it concluded that a centralized scheduling system allows for a more efficient delivery of health services by ensuring that the clinic is not overbooked, which in turn leads to smoother management of the waiting process.

As stated, the above strategies were built into an indicator for *Hospital Report*. The indicator consisted of three questions from the SIC survey which translated into three indicator components. Summary findings and detailed provincial and peer group findings are reported below.

### **Province-Level Findings**

- 1) Formal processes to remove a patient from the wait list
  - 58% of hospitals reported that they do not have *any* formal processes to remove patients from a clinic wait list
- 2) Centralized scheduling system to coordinate all patient visits
  - 44% do not use a centralized scheduling system that coordinates all patient visits
- 3) Strategies to make the patient's wait experience more comfortable and informative
  - The majority of hospitals have a television or reading material (97%) in their clinics
  - Verbal communication regarding estimated wait time or a white board with estimated wait time is present in 78% of all hospitals' clinics;

- A children’s play area or other entertainment for children is present in 67.9% of hospitals’ clinics;
- Only 9% of acute care hospitals in Ontario that responded to the survey have pagers to notify the patient and family that the care team is ready

### **Comparison among Peer Groups**

Small (N=31), Community (N=65), Teaching (N=13)

#### ***Managing the Waiting Experience within Ambulatory Care Clinics***

63. What proportion of your ambulatory care clinics currently has a formal process to remove a patient from the wait list when appropriate (e.g. if the patient is seen at another clinic)?

	Not at all	Rarely	Sometimes	Most of the time
Teaching	<b>46.2%</b>	<b>15.4%</b>	<b>23.1%</b>	<b>15.4%</b>
Small	<b>61.3%</b>	<b>6.5%</b>	<b>6.5%</b>	<b>19.4%</b>
Community	<b>56.9%</b>	<b>23.1%</b>	<b>6.2%</b>	<b>12.3%</b>

64. What proportion of your ambulatory care clinics currently makes use of a centralized scheduling system that coordinates all patient visits?

	Not at all	Rarely	Sometimes	Most of the time
Teaching	<b>15.4%</b>	<b>7.7%</b>	<b>15.4%</b>	<b>61.5%</b>
Small	<b>71.0%</b>	<b>0%</b>	<b>3.2%</b>	<b>22.6%</b>
Community	<b>36.9%</b>	<b>9.2%</b>	<b>7.7%</b>	<b>44.6%</b>

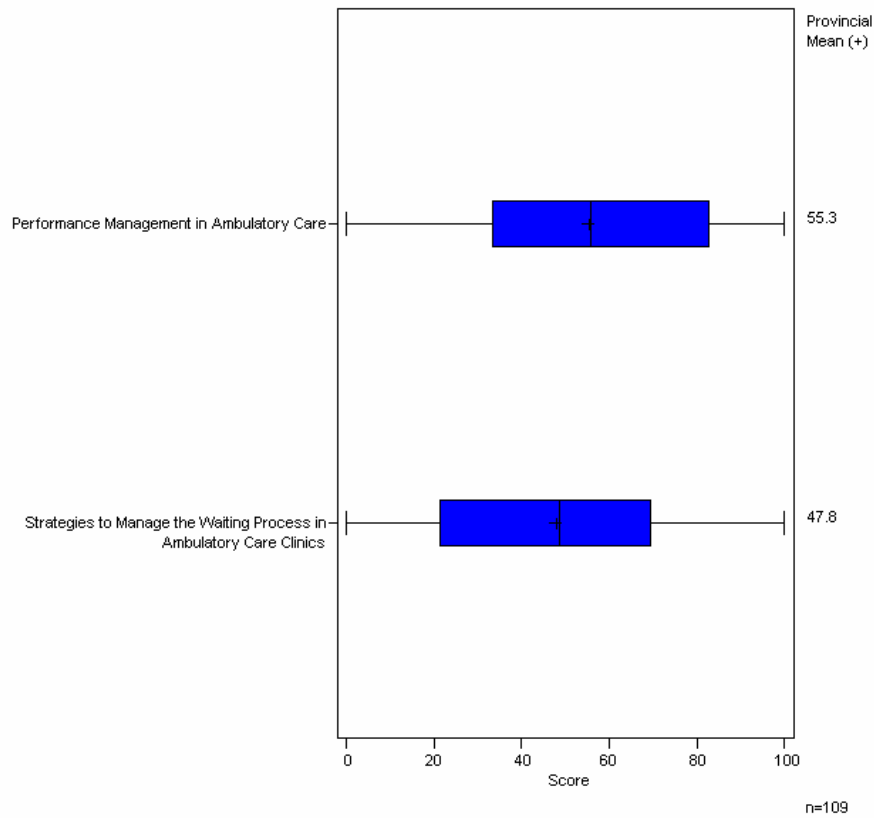
*This section asks about how hospitals manage the waiting experience for patients within their clinics (ie. the time from when the patient arrives in the clinic to the time they are seen by the health care professional).*

65. Within your ambulatory clinics, which of the following services or tools are consistently provided to make the patient’s wait experience more comfortable and/or informative for the patient (and family)?

<b>Teaching</b>	<b>Small</b>	<b>Community</b>	<i>Response options</i>
<b>100%</b>	<b>96.8%</b>	<b>96.9%</b>	Television OR reading materials (magazines, books, etc.)
<b>92.3%</b>	<b>61.3%</b>	<b>66.2%</b>	Kids play area OR entertainment for children
<b>100%</b>	<b>35.5%</b>	<b>78.5%</b>	Dedicated clinic volunteers available to provide information on hospital/clinic processes OR clinic/condition-specific reading materials
<b>100%</b>	<b>67.7%</b>	<b>78.5%</b>	Verbal communication regarding estimated wait time OR white board with estimated wait time
<b>61.5%</b>	<b>0%</b>	<b>3.1%</b>	Pagers to notify patient and family when patient is called
<b>0%</b>	<b>0%</b>	<b>1.5%</b>	None of the above
<b>46.2%</b>	<b>0%</b>	<b>26.2%</b>	Other

On this indicator, for which summary results at a provincial level are provided in Figure 5, teaching hospitals achieved higher scores than did others. It is possible that large teaching centres have greater resources on hand to more effectively manage the wait list and the waiting experience. As can be seen in the Figure 5, the inter-quartile range of scores (i.e., the length of the blue box) is very large on this indicator (as is the case for the performance management indicator, discussed below) indicating that there is significant variation in scores across hospitals in the province.

**Figure 3: Ambulatory Care SIC Indicator Results**



### ***B. Use of performance management in ambulatory care***

Monitoring the performance of ambulatory care clinics is growing as organizations are recognizing the need to assess and monitor performance across a diverse number of areas (Kedrowski, 2003); merely assessing the performance of inpatient care does not adequately capture the true overall performance of increasingly complex health facilities operating in an era of substantial ambulatory care service provision.

This performance management dimension was calculated as a new indicator for *Hospital Report: Acute Care 2006* and was divided into three components (forming one question with 3 sub-parts) in the SIC survey. All peer groups had statistically similar scores. The three components, and related summary findings, are as follows.

#### **Province-Level Findings**

- 1) Use and monitoring of performance indicators internally (i.e. within the clinic or hospital)
  - 28.0% of hospitals monitored performance indicators internally in *some* of their ambulatory clinics
  - 24.3% monitored internal performance indicators in *most* of their clinics
  - 40.2% of hospitals monitored internal performance indicators in *all* of their ambulatory clinics
- 2) Use and monitoring of performance indicators externally (i.e. with comparison to performance at clinics at other hospitals)
  - Most hospitals responded that they did not monitor performance indicators externally (35.5%)
- 3) Use of ongoing quality improvement projects (e.g. “plan-do-study-act”) in ambulatory care clinics
  - Most hospitals have ongoing quality improvement initiatives in *all* of their clinics (33.6%), followed by those hospitals that have them at *some* of their clinics

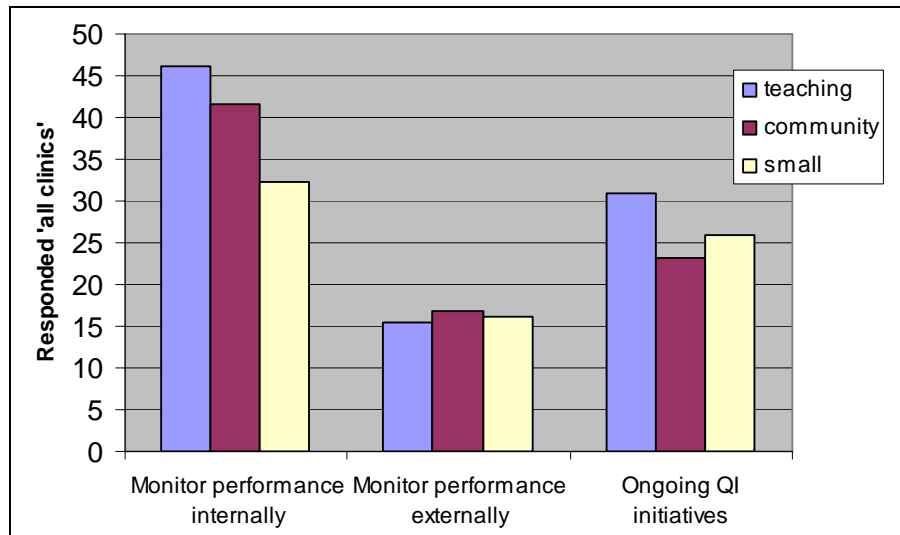
#### **Comparison among Peer Groups**

Small (N=31), Community (N=65), Teaching (N=13)

#### ***Use of Performance Management within Ambulatory Care***

Comparing peer group responses, figure 6 illustrates the proportion of hospitals which reported that all of their clinics performed the respective performance initiatives (i.e., monitoring internally and externally, performing QI). This figure shows that teaching hospitals had a higher response rate for “all clinics” with regards to monitoring performance internally and performing QI initiatives. Again, as was suggested in the previous indicator, it is possible that large teaching centres have greater resources on hand to monitor performance and invest in QI initiatives. Similar to the previous indicator however, the range of scores across hospitals is very large.

**Figure 4: Comparison of Peer Groups on Use of Performance Management**

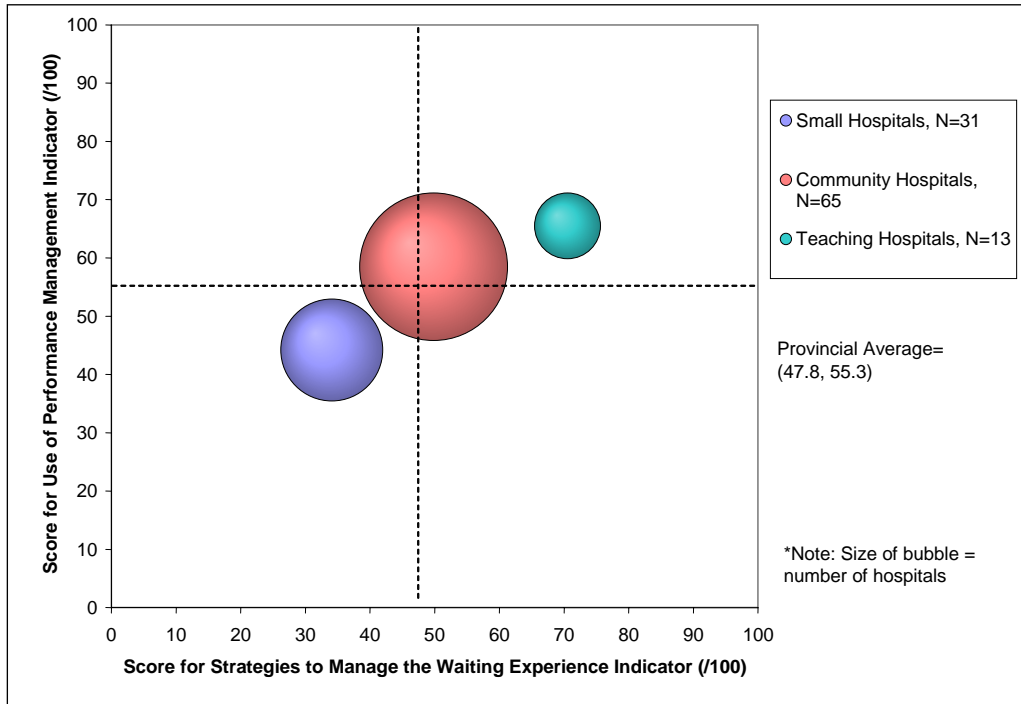


When comparing results on both indicators for SIC, (refer to figures 7 and 8) there is opportunity for improvement among all peer groups on the implementation of potentially better practices to manage the waiting experience in ambulatory care clinics. Beyond the strategies suggested by our panel, some of the more innovative methods identified by survey respondents include:

- **Additional education/entertainment** (11 respondents): education board in waiting rooms, educational “library,” welcome booklet regarding wait times, resource rooms with tapes and reading material, access to computer terminals
- **Food and other services** (4 respondents): nearby access to vending machines/cafeteria/ washrooms/public phones/water, free coffee/tea
- **Scheduling/Priorities in wait time** (4 respondents): wait times based on priorities such as return to work, tests and ambulance returns, assigned times
- **Efficiency and Proximity of exam rooms** (7 respondents): waiting rooms close to exam rooms, admitting desk in coordination with nurse in clinic

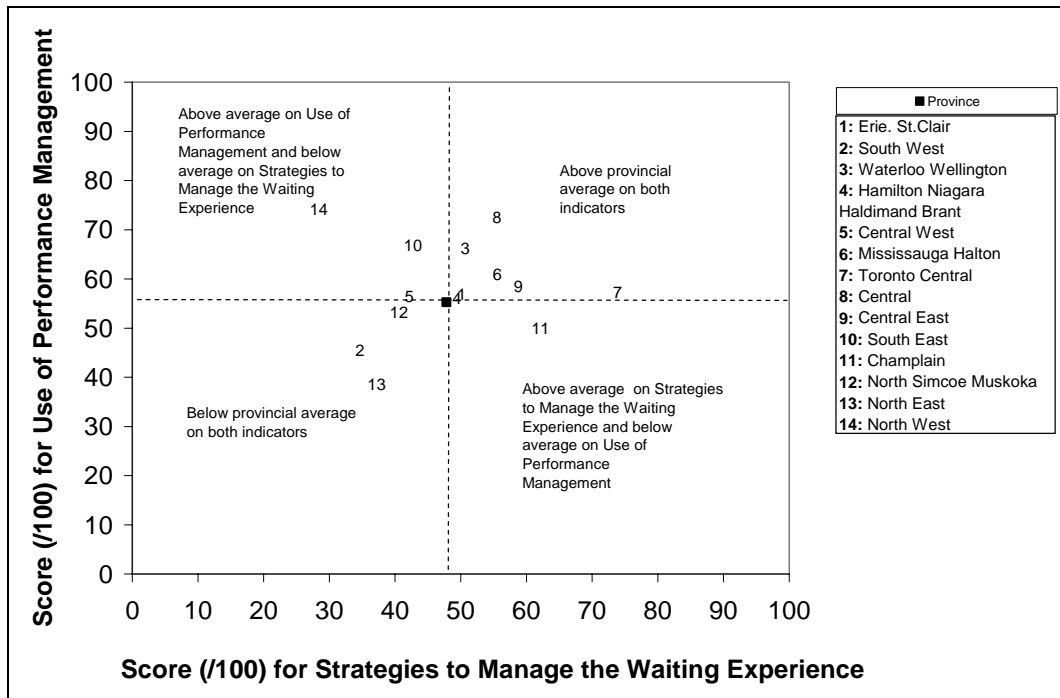
When comparing results from the two indicators under examination, we find that those LHINs whose hospitals perform above the provincial average on both indicators tend to have a greater proportion of large urban centres. Again, we can only postulate that this is because larger, urban teaching hospitals have more resources to manage the wait list and the waiting experience and monitor performance management processes. Small and community hospital managers may also have made a deliberate strategic decision to delay investing their resources in these processes until they have had a chance to learn from experiments undertaken at larger institutions.

**Figure 5: Comparison of SIC Scores by Peer Group**



The size of the bubble represents the number of hospitals in Ontario that both responded to and that belong to the designated peer group. The cross-hairs or dotted lines represent the provincial average for both indicators. The top right quadrant reflects above average scores on both the performance management and wait experience management indicators, versus the bottom left quadrant, which represents below average scores on both indicators. The mid-point of each bubble reflects the aggregate peer group scores for both indicators.

**Figure 6: Comparison of SIC Scores by LHIN**



The dotted lines in Figure 8 represent the provincial average for both indicators. Identified in the top right quadrant are those LHINs that scored above average on both the Strategies to Manage the Waiting Experience indicator and the Use of Performance Management indicator.

**Additional Findings in Clinic Management: Issues and Challenges**

An overriding measurement goal of the system integration and change survey is to meaningfully compare results across clinics. Although *Hospital Report* strived to include only those clinics that were relevant to most hospitals, not all hospitals had the clinics that were surveyed. Accordingly, only two indicators – the use of performance measurement and strategies to manage the waiting experience – were publicly reported either at a summary level in *Hospital Report: Acute Care 2006* or in the electronic scorecard for *Hospital Report* where hospitals may see their individual hospital’s scores and compare them to those of their peers.

As discussed, the use of multidisciplinary care teams is a leading practice in hospital-based ambulatory care clinics. Although we tried to track this phenomenon in our survey, data quality limitations arising from the unanticipated structural arrangements of ambulatory clinics (i.e., their fluid and decentralized nature) prevented us from drawing conclusions in some of the areas under exploration: e.g. clinics’ use of Advance Practice Nurses (APNs), therapists and certified nurses.

For example, some hospitals share the services of certified nurse educators with each other, a response option that was not available on the survey. Future surveys on ambulatory care activity in Ontario should therefore take into account the existence of innovative partnerships with other hospitals and hospital satellite sites, in the case, for

example, of a shared diabetes education program. Additional survey questions asked about the use of the aforementioned professional roles in different clinics, allowing respondents to identify the presence or absence of the given clinic within the question itself; this survey structure revealed inconsistencies in the proportion of hospitals reporting that they had a particular type of clinic (i.e., there was variation in response across questions). For this reason, these survey findings (reported below) must be interpreted with caution. For similar reasons, caution must also be applied when interpreting the findings of questions regarding which designated health care professional(s) are typically involved in the treatment of a patient (during one visit) at different clinics.

### **Preliminary Findings: The state of multidisciplinary care teams**

Certified educators and advance practice nurses (or nurses with extended class) play an essential role in improving the efficiency and quality of health care services. A certified educator is a health professional committed to excellence in the education of a specific disease or illness, who has a good knowledge of care management and education processes, and who possesses strong communication skills. An advance practice nurse or a Registered Nurse (RN) who earns Extended Class designation [RN(EC)] has successfully demonstrated her/his competence to the College of Nurses of Ontario (CNO) as a Primary Health Care Nurse Practitioner (PHCNP). In addition to upholding the standards of practice for RNs in the General Class, RN(EC)s are expected to meet the following Extended Class standards of practice (CNO, 2005).

- *Across Ontario, 56.0% of hospitals (N=61) had one or more priority ambulatory service with a certified educator devoted exclusively to the ambulatory department*
- *Across Ontario, 31.2% of hospitals (N=34) had one or more priority ambulatory services with advance practice nurses devoted exclusively to the ambulatory department*

In Ontario, the majority of hospitals that had the designated clinics (diabetes, asthma, chronic obstructive pulmonary disease (COPD), congestive heart failure and renal/dialysis) had reviewed the APN position and determined that it was not required. Clinics may have based this determination on the fact they have an APN available through a program at another hospital, they have enough full-time staff nurses to support their clinic, or perhaps they do not have the funds available at their hospital to hire an APN. Among diabetes clinics, only 17.4% had a full time APN devoted exclusively to the clinic, compared with 53.2% that did not have an APN available for the clinic.

Physicians were the healthcare professional group most commonly involved across all clinic areas, followed by nurse educators. This was true of all clinics except COPD clinics, where physiotherapists were most common, second to physicians. Other regulated health professionals who were often listed across all clinics were dietitians and registered nurses/nurse practitioners.

Diabetes clinics were the only clinics relatively common across all Ontario hospitals. Roughly 9 out of 10 (91%) hospitals reported having a diabetes clinic. The next most common type of clinic is renal/dialysis, with 51% of Ontario hospitals reporting regular activity in this area.

### **Preliminary Findings: Formal processes for the use and dissemination of information for decision-making**

Questions regarding the presence or absence of formal processes for the use and dissemination of information for decision-making in clinics should be interpreted with caution due to limitations surrounding the data. For example, two survey questions asked about the different methods used to communicate patient test/diagnostic results internally and externally – e.g., electronic, printed information, phone. New research suggests that readily available, comprehensive, integrated clinical information can reduce the use of ambulatory care while maintaining quality; it also allows doctors to replace some office visits with telephone contacts (Garrido et al, 2005). Upon review of the survey results, we discovered that the data quality was poor and perhaps there was some subjectivity in the interpretation of results. Upon further analysis, the research team decided that future surveys should focus on examining the accuracy and timeliness of the methods, rather than on the communication methods used.

Survey questions also asked whether there were formal processes in place for communicating patient-specific test/diagnostic results internally and externally:

- 10% of hospitals said they did not have internal processes in place and 14% said they did not have external processes in place
- For internal communication processes, 69.4% of hospitals said they had formal processes at one or more clinics and 20.4% said it varied by clinic
- For external communication processes, 63% said they had such processes and 23.1% said the processes varied by clinic

As discussed above, two questions asked about the methods used to communicate patient test/diagnostic results internally and externally. While there was good distribution of the response data for diabetes clinics, samples from other clinics were too small from which to draw significant interpretation. However, within diabetes clinics (the most common of the clinics), most hospitals reported that they did not have *any* of the methods for internal and external communication of results.

### **Preliminary Findings: Inclusion of caregivers in ambulatory care**

Finally, the question surrounding the extent to which different clinics include a family member support person or caregiver in the visit presented difficulties with interpretation. There were many missing values. Our findings illustrate that all hospitals use verbal communication more frequently than written reports (with the exception of diabetes clinics who use both) to communicate information to family members.

- Diabetes clinic: 86.2% verbally and 74.3% written
- Asthma clinic: 35.7% verbally and 32.1% written
- COPD clinic: 21.1% verbally and 15.6% written
- CHF clinic: 22.9% verbally and 22.0% written
- Renal/Dialysis clinic: 45.0% verbally and 35.8% written

Our findings suggest that family members are not as engaged as they might be in clinic processes; at the same time, it is important to recognize that the family support person or caregiver is not the legal patient and also, many patients do not necessarily require the support of a family member or caregiver in their care. Therefore, it would be wrong as a matter of performance measurement to score a hospital lower or higher for formally engaging (through written reports) the caregiver in the care planning process unless the patient had consented to this. Again, this nuance will have to be built into future surveys.

## **PATIENT SATISFACTION**

### **Survey and Response**

A pilot survey of patient satisfaction for ambulatory care clinics was developed and administered by National Research Corporation (NRC); the survey consisted of 67 questions. The pilot study included six acute care hospitals, representing 1,665 patient respondents across Ontario. Included in the pilot were three Ontario teaching hospitals and three Ontario community hospitals. No small hospitals were represented.

The majority of respondents (44%) were 65 or over. Although the survey represents a random sample of patients within clinics, it did not survey from a random sample of clinics: NRC researchers chose specific clinics from which to sample (diabetes, asthma, cardiology, dialysis, and fracture clinics), which together captured a diverse and broad picture of the universe of ambulatory care clinic activity in Ontario. The highest proportion of respondents had been seen at a diabetes clinic (15%). Since small hospitals' ambulatory care respondent populations were too small to sample, no small hospitals were included in the pilot study. Further, it should be noted that, since all three teaching hospitals sampled were from the Toronto area, the generalizability of the findings are limited but are nonetheless suggestive of possible trends.

### **Results**

Overall, 60% of respondents answered that the quality of their care was excellent and 84% said that they would recommend the ambulatory care clinic to their family.

#### ***Waiting Experience***

Of the participants completing the survey, 75% answered that they did not have to wait too long to get their first appointment versus 8% who said that they definitely waited too long. The majority of respondents said that they did not have a long wait to check in for an appointment (86%); answered that check-in was courteous (88%); and said that the waiting area was comfortable (77%). Among those who had to wait in the waiting area for an extended time, 51% responded that they were not given a reason for the long wait.

#### ***Coordination of the Clinic Visit***

Several questions pertained to the coordination of the clinic visit, with 80% of survey participants reporting that their tests were well coordinated with the clinic visit and 81% responding that they been advised, in an understandable manner, as to why the test was needed. In terms of test results, 72% were told how to find test results, and 81% of

respondents answered that their tests were very well organized with their clinic visit, although 17% were not told when they would find out their results.

#### ***Problems/Comfort Level***

There was evidence of patient concern regarding insufficient communication. With regard to care and treatment, 11% of respondents who answered that they had anxieties or fears, said that the clinic staff did not discuss these with them; 8% said that they were not advised about what to do if their problem came back; 17% responded that they were not advised of medication side effects; and 11% said clinic providers did not do everything to control pain.

#### ***Family Member Involvement***

When asked how much family members were involved in the care process, 48% responded that they were not involved at all. Of those that had family involved in care, 71% said their family member(s) definitely had enough opportunity to talk with staff and were given the right amount of information about the condition. However, 12% responded that not all recovery information was given to the family member(s).

### **Comparison Findings: Ambulatory Care vs. Emergency Department and Inpatient Patient Satisfaction**

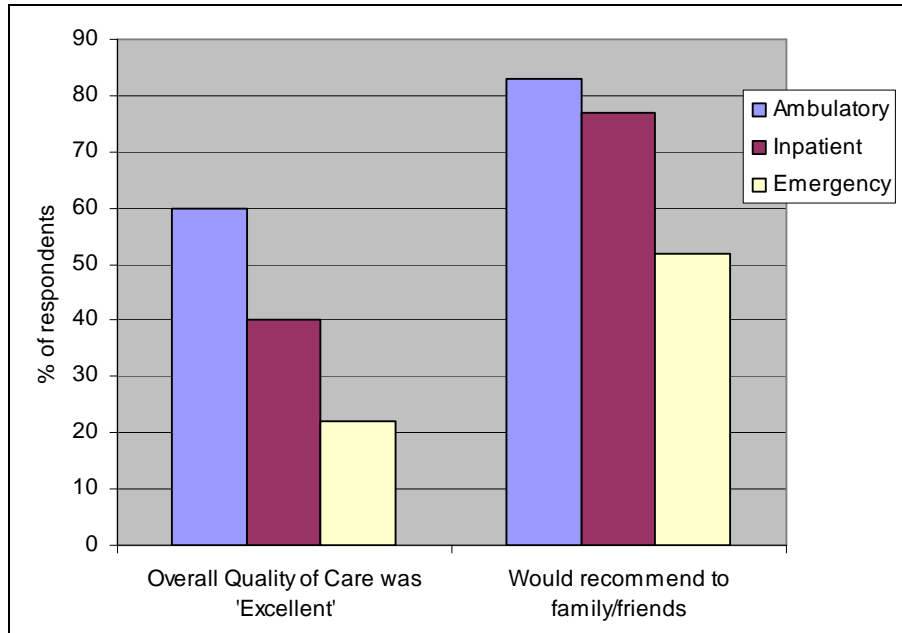
#### ***Respondents***

Question results for the ambulatory care patient satisfaction pilot study were compared to the same hospital results for inpatient and ED patients. The majority of respondents received care within large teaching hospitals for all three of the respondent groups, although the smallest percentage came from ambulatory care. Fifty-nine percent of the ambulatory care respondent group experienced care at teaching hospitals, as compared to 89% of the ED respondent population, and 94% of the inpatient respondent group.

#### ***Results***

When comparing overall quality and patient recommendation in ambulatory care versus inpatient and the emergency department, it is evident that ambulatory care clinic scores for this pilot study are higher. Figure 9 shows that the percent of respondents reporting that overall quality of care received was "excellent" within ambulatory care was 60% versus 40% in inpatient and 22% in the ED. Similarly, 83% of ambulatory care respondents answered that they would recommend the clinic to their family or friends as compared to 52% in ED and 77% of inpatient respondents. These findings provide some (limited) evidence for the notion that ambulatory care clinics support a patient care model that is potentially more sensitive to patient needs; one must be very cautious in this interpretation, however, since it is possible that satisfaction scores are directly related to patient acuity, which is often less severe in the ambulatory context.

**Figure 7: Patient Satisfaction in Ambulatory Care Compared to Inpatient and ED**



## FINANCIAL PERFORMANCE AND CONDITION

### Background

Within the financial performance and condition quadrant, we were not able to report any indicators for ambulatory care. One indicator was selected through the modified Delphi panel process. The panel members, who included senior executives, Chief Nursing Officers, ambulatory program managers, and a Chief Financial Officer, selected the indicator from a larger sample obtained from a systematic review of the literature. The indicator ultimately selected measured the mean cost per case for ambulatory visits.

### Findings

In general, existing financial performance and condition indicators in this area reflect cost or expense per weighted visit in ambulatory clinics. The data used to calculate the numerator are available since these data are submitted by hospitals in an electronic format, using a modified version of the Management Information System (MIS) Guidelines, known as the Ontario Hospital Reporting System (OHRS) Guidelines. However, the denominator includes an adjustment for the acuity of patients (or case mix adjustment). This adjustment is required to compare hospital performance and is done through the weighted visit calculation. Clinical administrative data, a grouping methodology, and case costing information are all required to calculate this adjustment for clinic or hospital.

In 2003, the Ontario Ministry of Health and Long-Term Care mandated hospitals to report their clinical activity in only a few high volume clinics (cancer care, renal dialysis, cardiac catheterization) using the Canadian Institute for Health Information's National Ambulatory Care Reporting System (NACRS). Currently, our scan reveals that the majority of clinics (aside from the three mandated) are not being reported to NACRS. Our preliminary analysis also reveals large variations in average cost per visit across clinics. This may be due to reporting issues, variations in the model of care and in patient acuity. The development of ambulatory care weights will permit a more meaningful costing system that will mirror other cost measuring systems in other hospital areas (e.g., acute care); the groupers and weights are being refined and they are in the process of being accepted for the purpose of funding for hospitals in Ontario. As the NACRS grouping methodology and case weights are refined and the resulting data quality improves, financial performance and condition indicators will be feasible for those clinics reflected in the NACRS database. However, as noted above, a true picture will not be possible until there is significantly more ambulatory activity mandated for collection in Ontario. .

## **CONCLUSION**

### ***Ambulatory Care as a strategic priority***

As part of the System Integration and Change (SIC) survey that was sent out to participating hospitals, respondents were asked to complete a brief resource survey to help researchers understand the scope and priorities of hospitals in terms of ambulatory care. Of the 109 hospitals that participated in the survey, 82% responded that increased ambulatory care activity is a current strategic goal within their organization. In terms of criteria used to determine which ambulatory care clinics will be provided at their hospital:

- 83% of hospitals said that ambulatory care services are provided based on an environmental scan of their community,
- 81% responded that such services were explicitly identified in the hospital's mission/vision or identified for expansion in the strategic plan, and
- 73% said they chose services based on their linkages with provincial strategy or with MOHLTC priority service areas.

When asked what criteria were used to determine whether clinics be located in-hospital or in the community:

- 87% of hospitals responded that this decision is based on financial efficiency
- 87% said this decision is based on whether the clinics require access to specialized equipment/technology only available at the hospital
- 78% said this decision is based on whether the clinics require access to a multidisciplinary team of providers

In conclusion, it is clear ambulatory care is a strategic priority whose direction is driven equally by financial pressures, by technology issues, and by an increased emphasis on patient-care philosophies (most notably, via multi-disciplinary care teams). To ensure

hospitals deliver on this vision in a strategic manner, hospital managers would benefit from new measures of ambulatory care performance – and from refinements in the underlying data sources necessary to produce such measures. We hope the identified indicators addressed in this report and proposed by our panel (see Appendix) are a starting point to further investigation in this important and growing area of patient care. Two of the key limitations at this time are the variability in organization of and reporting of ambulatory clinic activity across hospitals and the small percentage of clinical information mandated for collection in the province, despite increasing proportion of ambulatory to inpatient activity at many hospitals.

## **APPENDIX**

### **INDICATORS PROPOSED BY PANEL**

#### *Clinical Utilization and Outcome*

- Rate of hospitalization for ambulatory care sensitive conditions, chronic conditions
- Proportion of ambulatory visits that result in unplanned hospital admission for related diagnosis within a specific timeframe, dependent on type of clinic

#### *System Integration and Change*

- Adverse events within the ambulatory care setting
- Coordination of ambulatory visit
- Proportion of ambulatory clinics that regularly undertake internal and external benchmarking activities for quality improvement
- Proportion of ambulatory clinics offering multidisciplinary care, by type of clinic
- Proportion of ambulatory clinics with audited processes established for communicating patient-specific results to internal and external care providers
- Strategies in place that communicate and manage the waiting experience in ambulatory clinics
- Number of ambulatory clinics that routinely include patient caregiver as part of the clinical treatment plan
- Presence of formal processes to actively manage the wait time from referral to ambulatory visit
- Presence of advance practice nurses, therapists, or nurses with certification (not physicians) in diabetes and asthma clinics

#### *Financial Performance and Condition*

- Mean cost per case for ambulatory visits, per weighted case

#### *Patient Satisfaction*

- Patient Satisfaction within ambulatory care

### **INDICATORS REPORTED IN HOSPITAL REPORT 2006 - ACUTE CARE**

- 1) Inpatient hospitalization rate for Ambulatory Care Sensitive Conditions (ACSC)
- 2) Strategies to manage the waiting experience in ambulatory care clinics
- 3) Use of Performance Management in Ambulatory Care

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