

EMERGENCY

Improving Access to Emergency Care: Addressing System Issues

Report of the Physician Hospital Care Committee,
a Tripartite Committee of the
Ontario Hospital Association, the
Ontario Medical Association and the
Ontario Ministry of Health and Long-Term Care

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Improving Access to Emergency Care: Addressing System Issues

is the first report of the Physician Hospital Care Committee*, a tripartite committee of the Ontario Hospital Association, the Ontario Medical Association and the Ontario Ministry of Health and Long-Term Care.

The Committee would like to thank the members of the Emergency Department Overcrowding Expert Working Group for their valuable advice and Courtyard Group Ltd. for consulting support in developing the report and recommendations.

* A committee established by the 2004 Physician Services Framework Agreement between the Ontario Medical Association and the Ontario Ministry of Health and Long-Term Care.



Table of Contents

Executive Summary	1
Consolidated Recommendations	4
Foreword	12
Chapter 1: An Overview of the Issue	13
♦ What is Emergency Department Overcrowding and Why it is a Problem	13
♦ The Impact of Population Demographics on Access to Care and Emergency Department Overcrowding	16
♦ Major Reports Looking at Emergency Department Overcrowding	21
♦ What Other Jurisdictions Have Done to Remedy Emergency Department Overcrowding	25
Chapter 2: Emergency Department Overcrowding Data, Performance Targets and Accountability	29
♦ Recommended Ontario Performance Targets in Relation to Emergency Department Overcrowding	29
♦ Relevant Ontario Data	32
♦ How is Ontario Doing Right Now?	34
♦ Collecting and Using the Data	35
♦ An Accountability Framework	35
Chapter 3: Overcoming the problem of Emergency Department Overcrowding	38
♦ An Overview of the Causes of Emergency Department Overcrowding	38
♦ “The Mythology” of Emergency Room Overcrowding	39
♦ Recommended Solutions and a Toolkit for Organizations	43
♦ Lack of Bed Availability	44
♦ Lack of Integration Between Community and Hospital	52
♦ Standards for Emergency Departments	57
♦ Suggested Tools to Enhance Emergency Department Processes	57
♦ Delegation of Controlled Acts	59
♦ Implementation of the Recommendations in this Report	60
Appendix 1: The Canadian E.D. Triage and Acuity Scale	61
Appendix 2: Glossary	62
Appendix 3: Members of the Emergency Department Overcrowding Expert Working Group	63

Executive Summary

Emergency department overcrowding has been defined as “a situation in which the demand for emergency services exceeds the ability of an (emergency) department to provide quality care within acceptable time frames”. Emergency department overcrowding has been a longstanding problem in Ontario; however, there is compelling evidence that this problem can be solved. The majority of emergency department waiting for urgent and emergent patients is a result of waiting for an available inpatient bed. Emergency department overcrowding is not a problem that has its primary causes concentrated within the emergency department itself; rather it is part of a system-wide problem with access to care that requires system-wide solutions.

As Ontario’s population demographics change, emergency department overcrowding and its effects will continue to escalate. By 2031, approximately 25% of Canada’s population will be over the age of 65, almost doubling the current proportion of 13%. Proportionately more patients with complex multi-system disease are being seen in Ontario’s emergency departments; the highest visit rate is now in the 75 and older age group, and this visit rate has increased over 50% since 1992. In order to relieve the burden on emergency departments and the healthcare system as a whole caused by an aging population, it is imperative that access to care, including emergency care, be improved. A significant level of coordination and integration of care between hospital and alternative care settings is required in order to deliver high quality care in the safest and most effective and efficient manner.

In order to effectively define the extent of delay in access to emergency care on a facility-specific, regional or provincial basis, and in order to effectively evaluate the impact of any interventions to improve access to care, an appropriate standard performance target is needed. This target must be easily measurable and reasonably attainable in the current funding climate. It must also be linked to the collection of quality data. An accountability framework should also be established, which is linked to performance in relation to the targets. This report recommends performance targets together with standardized data elements for overall emergency department length of stay, as well as a performance indicator and standardized data elements for a subset of overall length of stay, emergency department time to admission. The former provides a relevant measure of *access to emergency care* while the latter is more closely linked to the availability, or lack thereof, of acute care capacity and access to inpatient beds. **Success in meeting these performance targets must be assessed through incremental improvement in performance** rather than an expectation that targets will be met soon after they are implemented. To this end, recommended incremental improvement milestones are provided. At present, the majority of Ontario hospitals are close to meeting some of the recommended emergency department length of stay performance targets, and a number have already surpassed it. Therefore, these are not unrealistic goals. Reliable data are not yet available for current hospital performance in relation to emergency department time to admission and for

this reason the report recommends that data collection in relation to this indicator begin as soon as possible and that establishment of a target be revisited within one year.

The setting of targets and collection of data related to those targets is rendered all the more powerful by linking them to an accountability framework. This report recommends that the Hospital Accountability Agreement framework be used to assess performance and ensure performance improvement in relation to access to emergency care. In addition, an accountability framework for Community Care Access Centres, ensuring performance in relation to hospital avoidance, timely discharge from hospital and hospital substitution, is proposed.

Many myths exist as to the causes of emergency department overcrowding, including overuse by non-urgent patients and seasonal outbreaks. The main overarching causes of overcrowding are twofold: a lack of bed availability, and a lack of integration between community and hospital healthcare resources. The number of acute care beds in Ontario fell by 22% during the mid to late 1990s. Acute care bed occupancy rates rose from 85.6% in 1994/95 to 96% in 2000, and have remained consistently well above 90% since then. Occupancy rates above 85% are linked with poor patient flow, including delays in admitting patients from the emergency department, and with a lack of bed surge capacity.

This report provides a rational framework, clearly linked to accountability, to assess whether funding of additional acute care capacity is required. Funding of acute care capacity may include funding of additional acute care beds, long-term care beds, mental health beds, rehabilitation beds, complex continuing care beds, convalescent beds and community resources. The report also provides recommendations to enhance integration between community and hospital healthcare settings. Finally, a practical toolkit of evidence-based interventions to assist healthcare organizations improve access to emergency care and patient flow is supplied.

It is imperative that the seventeen recommendations provided in this report be read and implemented as a collective package; a system wide problem cannot be remedied by selecting only portions of a system wide solution. It is recognized that many of these recommendations require long-term commitment and time to implement; lasting and real improvement will not occur overnight. It is acknowledged that there have been a number of reports and Expert Panels that have made recommendations for improvement to the health care system in the past year; as such, the recommendations in this report will need careful coordination at the local level as change is occurring on many fronts. In addition, as Local Health Integration Networks (LHINs) are established in Ontario responsibilities will be realigned between the Ministry of Health and Long-Term Care and the LHINs, and this may include responsibility for addressing certain recommendations provided in this report. There is a

clear expectation that the Ministry will clarify the necessary involvement of the LHINs as part of the development of its implementation plan for the report.

Access to emergency care is a fundamental system issue that should be considered in every funding and planning decision, whether at the government level, the Local Health Integration Network level or the facility/organization level. Emergency department accessibility is the responsibility of all of the players in the healthcare system, and ensuring success will require the concerted commitment of all involved.

Recommendations

Government

1. Performance Indicators and Targets

The Ministry of Health and Long-Term Care should require that hospitals measure and submit data relevant to emergency department length of stay. The following performance indicators and targets should be established by the Ministry:

- a. Emergency Department (ED) Length of Stay:
 - i. Canadian Triage and Acuity Scale Level I, II and III patients: \leq six hours (90th percentile)
 - ii. Canadian Triage and Acuity Scale Level IV and V patients: \leq four hours (90th percentile)

The standardized data elements for ED Length of Stay should be the time of patient first encounter (the earlier of triage nurse assessment or patient registration) UNTIL the time of patient departure from the emergency department to home or long-term care home OR to a clinical decision unit adjacent to the emergency department, an inpatient bed, an operating room, a critical care bed, or another facility.

Performance expectations for meeting these targets should be implemented in a phased, incremental manner (see recommendation 2a).

b. Emergency Department (ED) Time to Admission

The standardized data elements for ED Time to Admission should begin at the time an admission order is written OR the time a bed request is made, whichever comes first, once transfer is considered appropriate by both the referring emergency department physician and the most responsible physician accepting the patient for admission UNTIL the time of patient departure from the emergency department to an inpatient bed, an operating room, critical care bed or a clinical decision unit adjacent to the emergency department.

The standardized data elements for ED Time to Admission should be included in the Canadian Institute of Health Information NACRS (National Ambulatory Care Reporting System) emergency department minimum data set, adding to the data elements already collected for ED Length of Stay.

Establishment of a discrete numerical performance target for ED Time to Admission should be revisited by the Physician Hospital Care Committee within one year of the release of this report. This review should be based upon data collected for this performance indicator, as well as input and feedback obtained through active engagement of providers of emergency and inpatient care.

2. Accountability Framework

The Ministry of Health and Long-Term Care, together with the Joint Policy and Planning Committee, the Ontario Hospital Association and hospitals, should:

- a. Immediately incorporate the recommended ED Length of Stay indicators and targets and the ED Time to Admission indicator into the Hospital Accountability Agreement (HAA) as developmental indicators. The ED Length of Stay indicators and targets should be incorporated into the HAA as full Performance Indicators within one year. Performance in meeting the targets should be at least 10% absolute improvement per year OR achievement of the targets at the 90th percentile within two years and at the 95th percentile within four years.
- b. Revise the existing Relative Acute Length of Stay and Relative Total Length of Stay Performance Indicators in the HAA to reflect only the most common emergency department medical admitting diagnoses.
- c. Continue the development of indicators to assess the degree of integration between hospitals and Community Care Access Centres, and include these as Performance Indicators in the HAA as soon as possible.

3. Community Care Access Centre Performance Indicators and Accountability Framework

By April 1, 2007, the Ministry of Health and Long-Term Care (Ministry), together with the Ontario Association of Community Care Access Centres, the Ontario Hospital Association and the Ontario Medical Association, should develop:

- a. A common set of performance indicators for Community Care Access Centres (CCACs), to be included in Local Health Integration Network (LHIN)-based performance agreements, LHIN-Ministry accountability agreements, Integrated Health Service Plans and, where these are developed first, formal hospital-CCAC partnership agreements (see recommendation 11). These indicators should measure the degree of hospital diversion

resulting from CCAC-provided services enabling care in the patient's home, instead of a hospital admission or emergency department return visit.

- b. A threshold occupancy rate in acute care facilities by Alternate Level of Care patients which, once met, signals that priority access to long-term care beds is required.

4. Acute Care Capacity

- a. Investment to increase acute care capacity should include funding of acute care beds, mental health beds, long-term care beds, rehabilitation beds, complex continuing care beds, convalescent beds and funding of community resources. Communities that have demonstrated 1A status, allowing for crisis admissions to take precedence over other individuals on the wait list for long-term care admission due to high Alternate Level of Care occupancy, require immediate investment in long-term care beds.
- b. Each Local Health Integration Network (LHIN) should undertake a regional bed¹ and community resources utilization assessment, and develop an acute care capacity needs evaluation as part of the creation of its Integrated Health Services Plan.
- c. The Ministry of Health and Long-Term Care (Ministry) should fund additional acute care capacity through the annual planning and budget cycle if an individual hospital is regularly outside of the recommended Canadian Triage and Acuity Scale Level I, II, III ED Length of Stay target and *in particular* any future ED Time to Admission target *despite*:
 - i. The hospital meeting Relative Acute Length of Stay performance obligations, and any future Community Care Access Centre (CCAC) integration performance obligations, under the Hospital Accountability Agreement,
 - ii. The hospital demonstrating optimization of bed management strategies and emergency department processes, as described in chapter three, *and*
 - iii. The relevant CCAC meeting its performance obligations with the LHIN or with the hospital².

¹ Acute care, mental health, convalescent and long-term care, complex continuing care and rehabilitation beds

² If a formal hospital-CCAC partnership agreement is in place before a LHIN-based performance agreement (see recommendation 11)

Bed management strategies cannot include those that compromise the delivery of acute care services, affect surgical flow or throughput, including care delivered in the Emergency Department, or substantially affect the number of elective admissions. Optimization of bed management strategies can be demonstrated through use of coaching teams or expert review teams.

5. Community Management of Chronic Disease

The Ministry of Health and Long-Term Care, in consultation with appropriate professional associations, should fund and, where they are already underway, evaluate a series of pilots of comprehensive community-based management strategies for selected chronic diseases³, for mental health and for palliative care. These pilots should take place at different geographic sites and utilize multi-disciplinary teams with appropriate access to primary care, specialist care, diagnostic resources and community care.

6. Legislative Renewal

The Ministry of Health and Long-Term Care should:

- a. Take steps to revise the Long Term Care Act, 1994 and associated regulations to allow Community Care Access Centres to provide an increased scope and duration of services to clients in their homes, in order to increase hospital substitution/early discharge, increase hospital avoidance, and reduce the number of Alternate Level of Care (ALC) patients occupying hospital beds.
- b. Ensure that any new legislation governing long-term care homes in Ontario allows an increased scope of services to be provided for residents of long-term care homes and provides an appropriate funding mechanism for these services, in order to increase hospital substitution/early discharge, increase hospital avoidance, and reduce the number of ALC patients occupying hospital beds.

7. Interfacility Transport

The Ministry of Health and Long-Term Care, in collaboration with Local Health Integration Networks, municipalities and hospitals, should develop and implement a province-wide system to facilitate the timely, efficient and safe interfacility transport of patients from emergency departments to other facilities, from emergency departments to home and between sites of multicentre facilities.

³ Such as COPD, CHF, Type 2 diabetes

8. Standards for Emergency Departments

- a. The Ministry of Health and Long-Term Care, in association with the Ontario Hospital Association, Ontario Medical Association and other professional groups, should immediately develop standards for emergency departments setting out best practices and establishing minimum operational performance standards for every classification of emergency department in Ontario.
- b. Once these standards are developed and supported, the Ministry of Health and Long-Term Care and the Ontario Hospital Association should engage with the Canadian Council on Health Services Accreditation (CCHSA) to determine how these standards could be rapidly implemented into the hospital accreditation process.

9. Methodology to Define Bed Needs

The Ministry of Health and Long-Term Care, in consultation with the Ontario Hospital Association through the Joint Planning and Policy Committee and the Ontario Medical Association, should immediately develop a methodology to assess acute care bed needs based upon the number of emergency department admissions, the number of existing beds and the level of Alternate Level of Care bed occupancy. In defining the methodology, input from Local Health Integration Networks should be sought and work done by other Expert Panels, such as that dedicated to Surgical Process Improvement, leveraged as appropriate.

Key Stakeholders

10. Performance Indicators and Targets

The Board of Directors and senior management of each Ontario hospital with an emergency department should be responsible for:

- a. Regularly evaluating Relative Acute Length of Stay, Relative Total Length of Stay and Relative Risk of Readmission data to assess deviation from established targets or benchmarks.
- b. Collecting Emergency Department (ED) Length of Stay and ED Time to Admission data on at least a quarterly basis using the recommended standardized data elements, and regularly evaluating these data to assess deviation from recommended performance targets.

- c. Maintaining regular progress toward achieving these targets, with good progress considered to be a 10% absolute improvement in performance per year OR achievement of the targets at the 90th percentile within two years and at the 95th percentile within four years. Progress must not compromise the delivery of acute care services, affect surgical throughput or flow, or substantially affect the number of elective admissions.
- d. Progress toward achievement of the recommended ED Length of Stay targets and any future ED Time to Admission target may be aided by drawing upon suggested tools such as those provided in chapter three of this report.

Each Local Health Integration Network (LHIN), in partnership with hospitals and frontline healthcare workers and in consultation with the Ministry of Health and Long-Term Care, should develop, and where feasible pilot, positive incentive models for achievement of the recommended performance indicators and targets.

11. Hospital-Community Care Access Centre Partnership Agreements

Formal hospital-Community Care Access Centre (CCAC) partnership agreements should be put into place across the province no later than April 1, 2007, facilitated through the Local Health Integration Network framework where required. These agreements should provide for the integration of CCAC case managers into inpatient and emergency department patient management teams.

12. Bed Management

- a. Drawing upon the suggested tools provided in chapter three of this report, each hospital should ensure it has bed management strategies, policies and procedures in place, and assess their effectiveness through evaluation of their impact on ED Length of Stay and ED Time to Admission performance indicators and targets. Bed management strategies cannot include those that compromise the delivery of acute care services, affect surgical flow or throughput, or substantially affect the number of elective admissions.
- b. If deviation from performance corridors set in the Hospital Accountability Agreement for ED Length of Stay targets and any future ED Time to Admission target occurs after optimization of bed management, including minimizing bed occupancy by Alternate Level of Care patients, and after the relevant Community Care Access Centre has met its performance obligations with the Local Health Integration Network or with the hospital⁴,

⁴ If a formal hospital-CCAC partnership agreement is in place before a LHIN-based performance agreement

a hospital should focus on the need for additional acute care capacity. Acute care capacity can include additional acute care beds, or advocating for long-term care beds, rehabilitation beds, complex continuing care beds, convalescent care beds or community resources.

13. Clinical Decision Units

If a hospital establishes a clinical decision unit (CDU) adjacent to the emergency department, the CDU should have the following features:

- a. Physically distinct from the emergency department
- b. If possible, a separate dedicated staff schedule, with the CDU being staffed by emergency department personnel
- c. Adherence to written care maps for admission and discharge to the CDU
- d. Overall length of stay in the CDU should not exceed 24 hours
- e. Time to admission for those patients admitted to hospital from the CDU should be the same as that for admission of a patient to hospital from the emergency department (see recommendation 1b)
- f. Admission rates to inpatient beds should not exceed 20 percent
- g. A specific CDU utilization review process with an associated quality assurance program incorporating CDU-specific indicators

14. Annual Forum on Best Practices

The Ontario Hospital Association, Ontario Medical Association and Ministry of Health and Long-Term Care, in collaboration with Local Health Integration Networks, should establish an annual forum to allow healthcare stakeholders to share best practices for improving patient access to emergency care services.

15. Delegation of Controlled Acts

Hospitals should maximize the use of medical directives within the emergency department, in order to increase the efficiency of patient flow and patient care.

All regulated health profession colleges should work together to develop a unified approach to delegation of controlled acts that facilitates the effective, efficient and safe use of medical directives.

16. Physician Engagement

All health care providers are partners in ensuring the successful implementation of the recommendations in this report, including physicians. Each hospital should establish a forum, such as a working group, whereby front line emergency department physicians and staff, physicians who manage inpatients admitted from the emergency department and senior administration can actively work together toward implementation of the recommendations contained in this report.

17. Implementation

The Physician Hospital Care Committee should identify targeted interventions for early implementation.

No later than twelve months after release of this report, the Physician Hospital Care Committee and the Physician Services Committee should review the progress on implementation of the recommendations made in this report.

This report should be sent to the fourteen Local Health Integration Networks (LHINs) so that it may be used in the development of Integrated Health Service Plans as appropriate. The LHINs should also be asked to identify critical issues in the report requiring immediate resolution at the LHIN level.

Foreword

Emergency department overcrowding is a longstanding healthcare access issue that has its roots in system-wide problems that require system-wide solutions. Left unaddressed, its detrimental effects will continue to escalate and to limit access to emergency care by Ontarians. Immediate action is required.

The 2004 Physician Services Agreement between the Ontario Medical Association (OMA) and the Ministry of Health and Long-Term Care (Ministry) established the Physician Services Committee (PSC) and the Physician Hospital Care Committee (PHCC). The mandate of the PSC is to provide a structured process for regular liaison and communication between the Ministry and the medical profession; its membership is divided equally between the Ministry and the OMA. The PHCC is a tripartite committee of the Ministry, the OMA and the Ontario Hospital Association (OHA). Its mandate is to advise all three bodies on strategic planning and coordination of effective and efficient physician hospital care in Ontario. With the support of the PSC, the PHCC established an Expert Working Group to make evidence-based, practical recommendations to improve patient access to emergency care in Ontario (see Appendix 3 for membership). The group was comprised of front line healthcare professionals, scientists, administrators, in addition to representatives from the Ministry, the OMA and the OHA. Each of these groups recognizes that delay in access to emergency care requires urgent rectification.

This report, together with its concise recommendations, is the product of extensive deliberations of the Expert Working Group, and has been reviewed and is fully endorsed by the PHCC. It is based upon current evidence and literature, together with the opinion of key experts. Of note, the work of the Expert Working Group did not specifically include or address emergency department overcrowding issues and solutions that are particular to the paediatric population. In early 2006, the report of the Ambulance Effectiveness Working Group (the Schwartz report) was released. The focus of the Schwartz report was ambulance offload delay; in contrast, this report addresses the broader problem of access to emergency care and provides system-wide recommendations to improve access and patient flow.

Chapter 1. An Overview of the Issue

What is Emergency Department Overcrowding and Why it is a Problem

Emergency Departments (EDs) are a critical point of access to the health care system and offer an essential service to the general population. They are important hubs that interact directly with primary care, in-hospital care and community care services.⁵ As patients flow through the various components of the healthcare system, including the ED, community care settings and hospitals, a number of obstacles prevent timely access to care. A symptom of these obstacles is emergency department overcrowding and subsequent wait times for ED services. In essence, emergency department overcrowding is a product of system wide problems regarding patient access to “the right care at the right time in the right setting” and itself is manifested as inadequate access to care. A 2004 Ipsos Reid report produced for the Canadian Medical Association demonstrated that long waiting time for ED services was among the top four areas of concern for Canadians about the health care system: 74% of respondents named ED waits as a problem.⁶

Emergency department overcrowding has been defined as “a situation in which the demand for emergency services exceeds the ability of an (emergency) department to provide quality care within acceptable time frames”.⁷ Emergency department overcrowding has been a longstanding problem in Ontario; yet, compelling evidence exists to begin to take steps to control it.

In 2003-04, Ontarians visited EDs almost five million times. In that same year, the ED waiting time for 90% of those visits was up to 6.6 hours. Breaking this down by the level of patient acuity, 90% of CTAS level I through III patients (resuscitation, emergent, urgent) waited up to 8.67 hours and 90% of CTAS level IV and V patients (non urgent, less urgent) waited up to 4.32 hours. These wait times occur for different reasons, however. CTAS level I, II and III patients spend the *minority* of their time waiting to see a physician and the *majority* waiting to be either discharged or admitted to hospital. This suggests that the bulk of ‘waiting time’ for CTAS I through III patients occurs after physician assessment and is due to waiting for one or more of diagnostic tests, treatments, consultations, and, most importantly, waiting for an inpatient bed. On the other hand, CTAS level IV and V patients spend the majority of their time waiting to see a physician, with subsequent steps in their care accounting for a minority of the wait.⁸

⁵ Institute of Clinical Evaluative Sciences. Research Atlas: Emergency Department Services in Ontario; 2001 Nov. Available from: http://www.ices.on.ca/file/Emergency_department_services_in_Ontario.pdf (accessed March 1, 2006).

⁶ Ipsos-Reid. Health Care Access and Canadians: Submission to the Canadian Medical Association; 2004 Feb.

⁷ Canadian Association of Emergency Physicians and National Emergency Nurses Affiliation, Joint Position Statement. Access to acute care in the setting of emergency department overcrowding. *Can J Emerg Med* 2003; 5(2): 81-6.

⁸ Institute for Clinical Evaluative Sciences, unpublished data

Figure 1.1 Characteristics of ED patients according to triage level, 2004/05
Source: Institute for Clinical Evaluative Sciences

Characteristic	CTAS level I-III*	CTAS level IV/V**
Mean age (years)	42.85	36.05
Arrived by ambulance (%)	20.6%	3.8%
Proportion of ED length of stay spent waiting for physician assessment	40.2%	60.3%
90th percentile ED length of stay (hours)	8.67	4.32
Admitted (%)	19.7%	2.6%
* Group mostly comprised of CTAS III patients ** Group mostly comprised of CTAS IV patients		

Further analysis shows that CTAS level I through III patients tend to be older, tend to arrive by ambulance, and are far more likely to be admitted than CTAS level IV and V patients.⁹ With much longer ED lengths of stay and almost an 8-fold increase in the likelihood of needing an inpatient bed, clearly the focus of attention needs to be paid to CTAS level I and II patients, but particularly to CTAS level III patients when looking for solutions to emergency department overcrowding.

Yet, emergency department overcrowding is *not* a problem that has its primary causes concentrated in the ED itself; rather it is part of a system-wide problem that requires system-wide solutions. As Ontario's population demographics change, emergency department overcrowding and its effects will continue to escalate.

Emergency department overcrowding has consequences beyond the simple inconvenience of spending hours waiting in an ED. It prevents patients from flowing through the system in an efficient manner and as a result has produced a number of negative consequences by blocking access to care. Some of these include:

- ◆ Patient suffering, dissatisfaction and inconvenience
- ◆ Poor patient outcomes
- ◆ Increased morbidity and mortality
- ◆ Poor quality of care
- ◆ Contribution to infectious disease outbreaks
- ◆ Violence aimed at hospital staff and physicians

⁹ Ibid

- ◆ Decreased physician and nursing productivity
- ◆ Deteriorating levels of service
- ◆ Increased risk of medical error
- ◆ Negative work environments
- ◆ Negative effects on teaching and research

Although this is a serious and complex issue, there are ways to reduce the problem and diminish the negative consequences associated with emergency department overcrowding. The overarching causes of emergency department overcrowding are well known and well researched, and with appropriate interventions implemented and recommendations executed there is great potential for emergency department overcrowding to become a problem of the past. Indeed, as will be discussed later in this chapter, the United Kingdom has achieved dramatic improvements in ED wait times as a result of focused attention and action by government and stakeholders.

The Impact of Population Demographics on Access to Care and Emergency Department Overcrowding

As a result of a number of factors, such as the impact of the “baby boomer” generation, increases in life expectancy and lower birthrates, demographics are changing such that the proportion of older persons is steadily increasing. Demographic and economic forces associated with a rising proportion of seniors relative to the working age population are posing a challenge for health and social service leaders and policy-makers that will only increase in the future.¹⁰

Some striking implications of an aging Ontario population include:

- ◆ A higher incidence and prevalence of chronic diseases associated with aging, coupled with a greater incidence of multi-system disease and increasing patient complexity
- ◆ A need for greater use and integration of multiple health care disciplines to address the multi-system disease patterns of the elderly
- ◆ A need for sufficient health human resources to provide the frequently resource and time intensive care required by the elderly, in the face of an aging health care workforce
- ◆ An increasing need for additional, dedicated resources for alternative levels of care outside of the hospital setting, including community care to support people remaining in their homes

Age dependency ratios are commonly used to determine the proportion of the young (those under 15 years of age) and old (those over 64 years of age) that depend on people of working age (those 15 to 64 years) within a population. In 1991, 11.6% of Ontarians were over the age of 65, and Ontario's old-age dependency ratio was 16.9. In other words there were 16.9 people 65 years or older for every 100 people 15 to 64 years of age in Ontario. By 2000, less than a decade later, 12.6% of Ontario's population was over the age of 65 and Ontario's old-age dependency ratio had increased to 18.5 (Figure 1.2). It is noteworthy that Ontario's old-age dependency ratio is currently increasing at a rate *above* the Canadian average.¹¹

¹⁰ Natural Resources Canada. An Aging Population. Available from: <http://atlas.gc.ca/site/english/maps/health/ruralhealth/agingpop/> (accessed March 1, 2006)

¹¹ Ibid

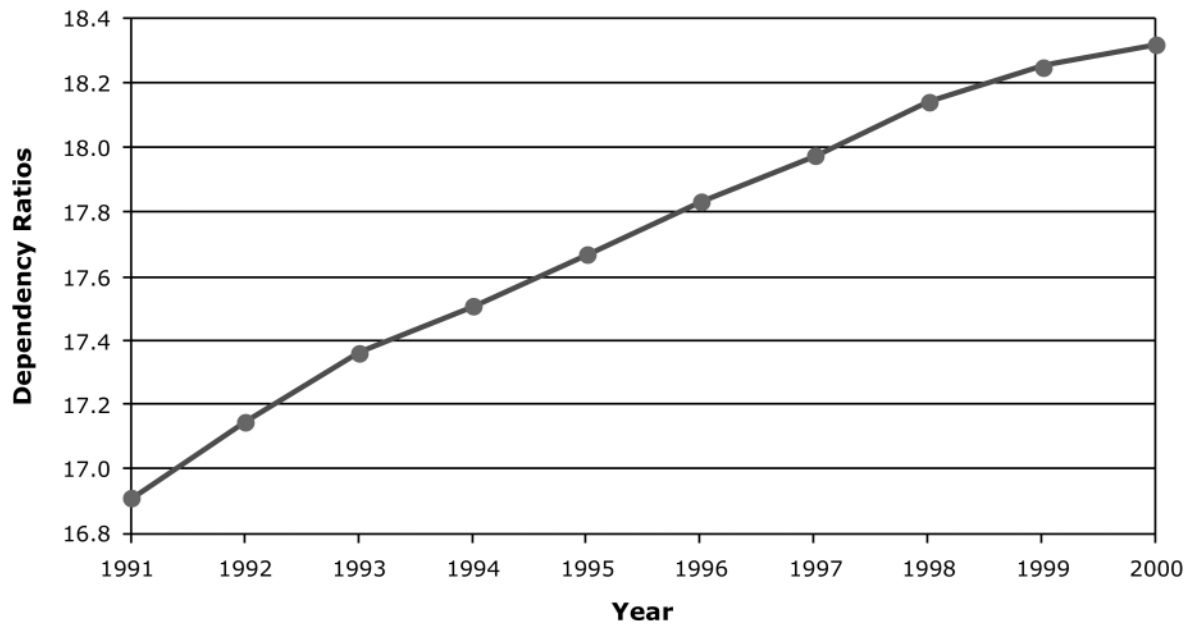


Figure 1.2 Old-Age Dependency Ratios, Canada 1991-2000
 Source: Natural Resources Canada. *An Aging Population*

According to population projections by Statistics Canada, population aging will accelerate in 2011 when the first baby-boom cohort reaches the age of 65. This rapid aging of Canada's population is expected to last until 2031, when seniors will account for between 23% and 25% of the total population, almost doubling their current proportion of 13%.¹²

Although the overall number of ED visits in Ontario has not changed dramatically over the last decade, the aging population and evolving patterns of healthcare utilization, especially among the elderly, is being reflected in increasing ED visit rates by those over the age of 55, and particularly over the age of 75. Such patients are generally much more complex to care for in EDs, as they often have multi-system disease. Figure 1.3 illustrates that the highest ED visit rate is in the 75 and older age group; a decade ago, the 0-4 age demographic held the top spot.

¹² Statistics Canada. The Daily (December 15, 2005). Available from: <http://www.statcan.ca/Daily/English/051215/d051215b.htm> (accessed March 1, 2006)

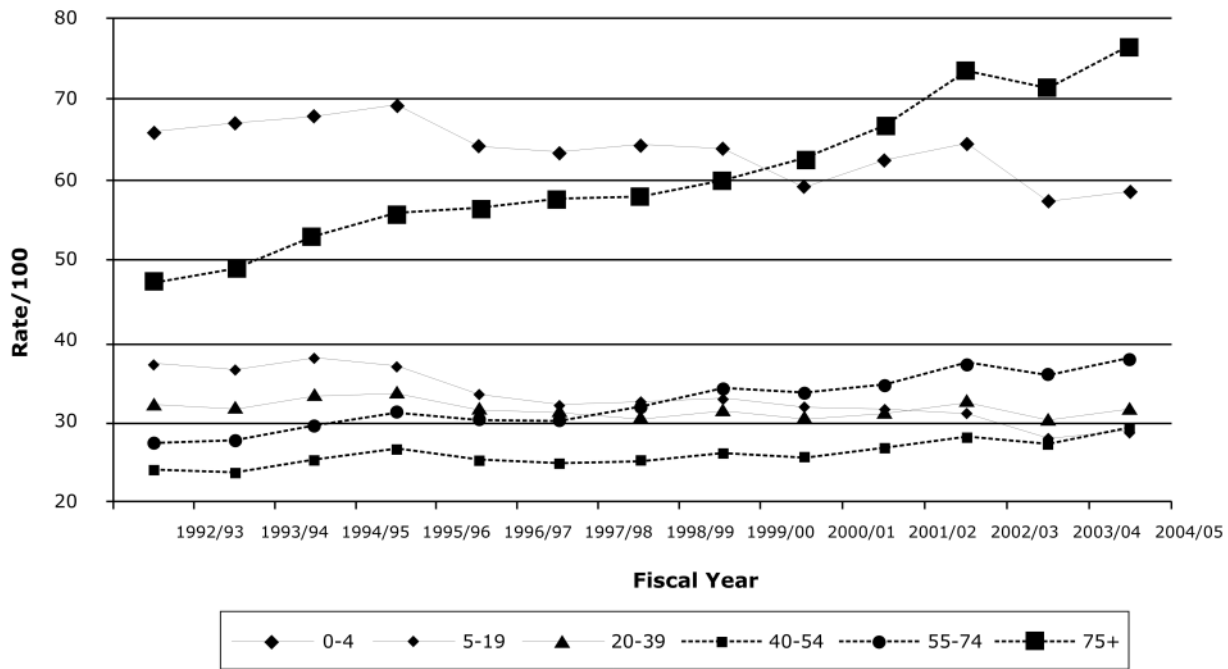


Figure 1.3 Annual Emergency Department Visit Rates by Age Group, Ontario, 1992/93 to 2004/05 (based on OHIP Claims)
 Source: Institute of Clinical and Evaluative Sciences, February 2006

More striking, however, is the *relative change* in ED annual visit rates in the 55-74 and over 75 age groups. As illustrated in Figure 1.4, the rate of ED visits in the 55-74 age group increased by almost 40%, and in the 75 and older age group increased by a staggering 55+% during the 1992-2005 time period.

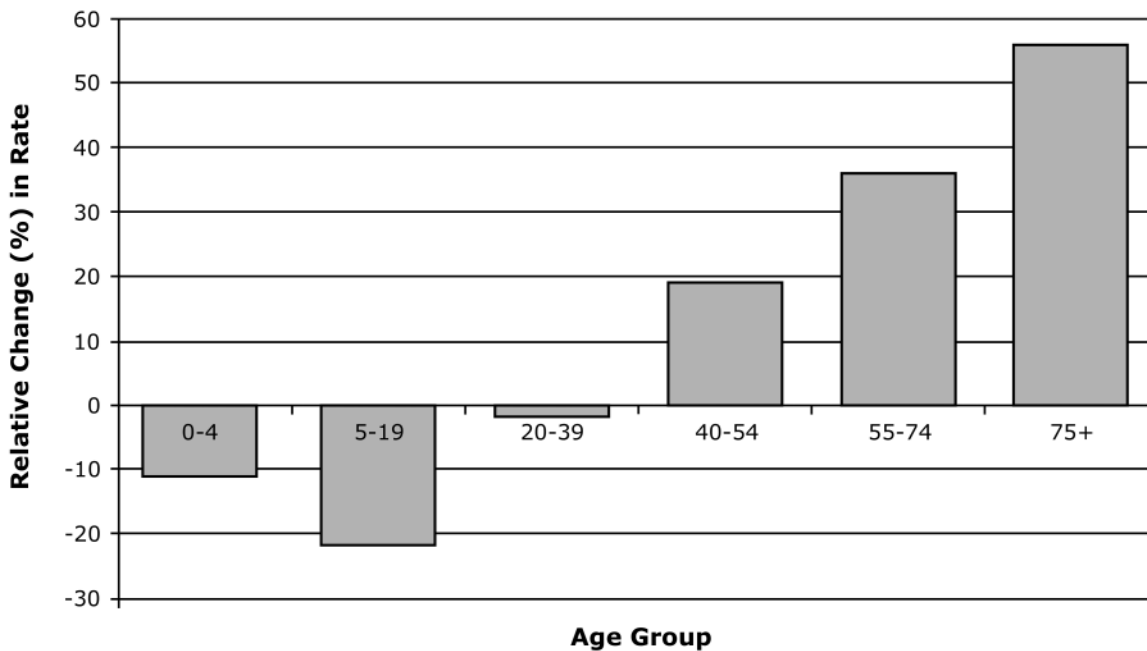


Figure 1.4 Annual Emergency Department Visit Rates by Age Group in 2004/05 compared with 1992/93, Ontario (based on OHIP claims)
 Source: Institute of Clinical and Evaluative Sciences, February 2006

These two trends, an aging population combined with increasing rates of ED utilization among older Ontarians, will combine to dramatically increase the number of ED visits by older patients in coming years. Mathematical modelling can be used to forecast these trends of ED usage by age. Figures 1.5 and 1.6 clearly illustrate the dramatic difference in projected ED usage (through 2009) by the 55 and older age group as compared to the 0 to 54 age group: the ED visit rate in the older group will increase in a log linear fashion while that in the younger age group will remain relatively unchanged.

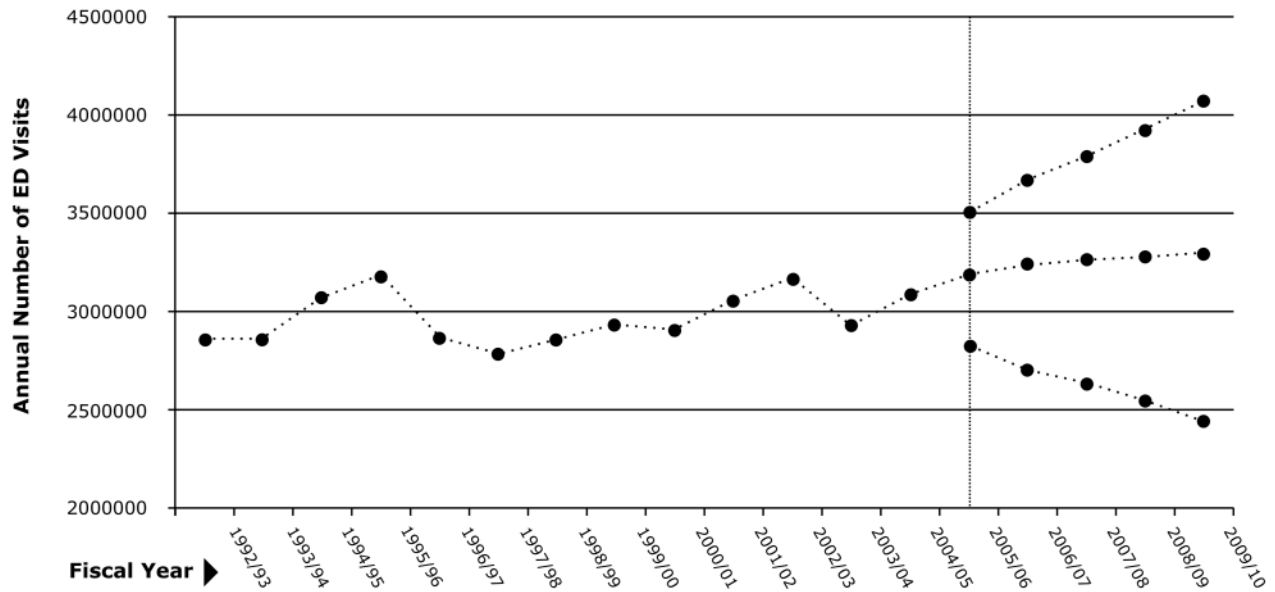


Figure 1.5 Emergency Department Visits, Ages 0 to 54 years, 1992/93 to 2004/05, and Forecast for 2005/06 to 2009/10, Ontario Source: Institute of Clinical and Evaluative Sciences, February 2006

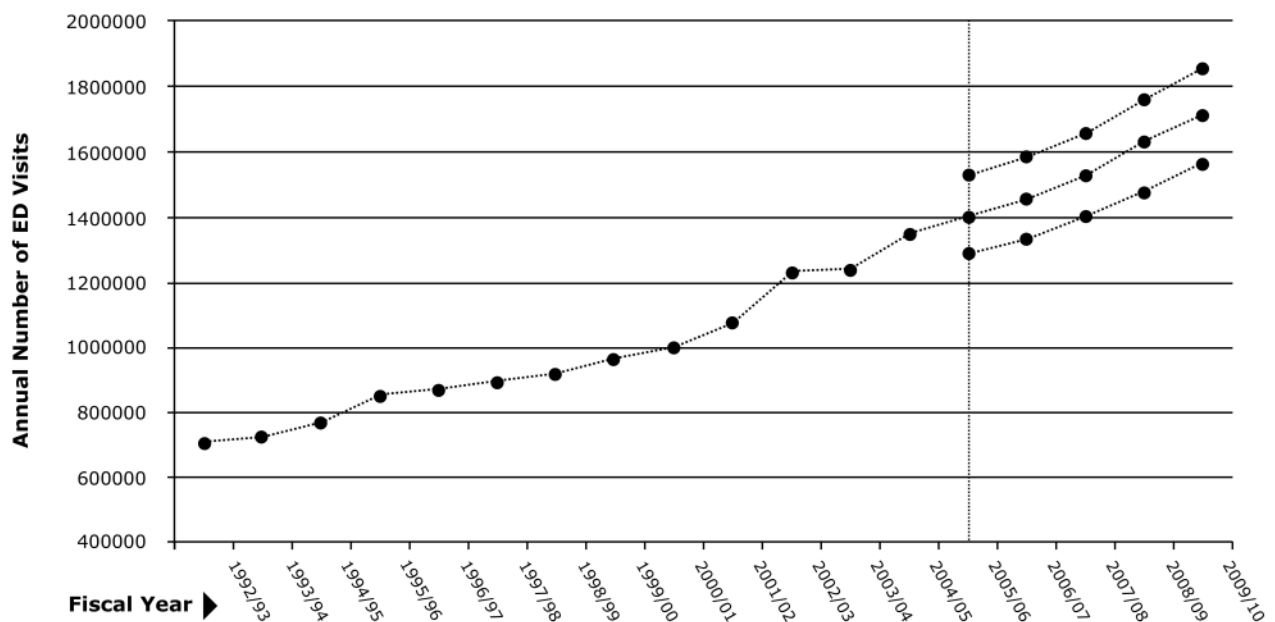


Figure 1.6 Emergency Department Visits, Ages 55 years and over, 1992/93 to 2004/05, and Forecast for 2005/06 to 2009/10, Ontario Source: Institute of Clinical and Evaluative Sciences, February 2006

The projected increasing proportion of elderly patients visiting the ED could result in disastrous problems with emergency department overcrowding, with the potential to substantially worsen gridlocks in emergency departments if circumstances remain unchanged. As noted in the first section of this chapter, CTAS level I through III patients have a longer ED length of stay and are almost eight times more likely to be admitted to hospital than CTAS level IV and V patients. Elderly patients with multi-system chronic disease frequently fall into the CTAS level III (or higher acuity) category. Indeed, a recent study commissioned by the Ministry's Toronto regional office noted that the greatest number of transfers to the ED from selected Toronto long-term care homes fell into CTAS level III.¹³

Given projections of the changing demographic characteristics of Ontario's population, current access to care issues as demonstrated by emergency department overcrowding are indicative of problems and challenges of much greater magnitude and complexity for Ontario in the future. Emergency department overcrowding will worsen unless specific, root causes are addressed. In order to relieve the burden caused by an aging population on EDs and the healthcare system as a whole, it is imperative that access to care across the continuum and in settings other than acute care hospitals be made more readily available. In addition, adequate resources and beds must be funded within Ontario hospitals for those patients who cannot be adequately treated in the community. To this end, a significant level of coordination and integration of care between hospital and alternative care settings is required in order to deliver high quality care in the safest and most effective and efficient manner.

¹³ Ministry of Health and Long-Term Care, Toronto Regional Office. Resident Transfers from LTCH to Hospital Emergency Departments; 2006 Feb.

Major Reports Looking at Emergency Department Overcrowding

A number of reports have been written on the topic of emergency department overcrowding. Some of the more recent and prominent reports released include: *Improving Access to Emergency Services: A System Commitment* (the Schwartz report); *Understanding Emergency Department Wait Times* (CIHI, 2005); and *The Hospital Report Card – Emergency Department Care 2005 Report*. The numerous reports and extensive literature focused on this topic indicate the significance of this problem to the healthcare system and Ontarians.

a. Improving Access to Emergency Services: A System Commitment

In 2005 the Hospital Emergency Department and Ambulance Effectiveness Working Group, under the leadership of Dr. Brian Schwartz, was commissioned by the Ministry of Health and Long-Term Care (Ministry) to advise the government on ambulance offload delays in Ontario EDs. In making its recommendations, the working group made it clear that ambulance offload delay is simply a symptom of the bigger issue of emergency department overcrowding, which in turn is a symptom of a lack of system integration and insufficient resourcing. Therefore, in arriving at conclusions and developing recommendations for improvement of ambulance offload time, the Schwartz report highlighted a number of associated, system issues.

The report found that the most important cause of delays in ambulance offload time in EDs is a lack of capacity to treat hospital inpatients, leading to prolonged ED length of stay and emergency department overcrowding. The need to provide inpatient care within EDs was linked to previous reductions in the number of funded acute care beds without an associated increase in the necessary community supports. In turn there have been consequential ambulance offload time delays and delayed ambulance response times in the community.

The report also identified benchmarks for key performance indicators with respect to ambulance offload time and ED LOS, and indicated the importance of linking progress towards benchmarks with incentives.

In January 2006, at the same time as the public release of the Schwartz report, the Ministry made an announcement with respect to Ontario's Critical Care Strategy, which in conjunction with the Schwartz report recommendations was designed to help ease emergency department pressures. Also included was a small amount of funding (less than \$6 million out of a total of \$96 million) to implement certain recommendations made by the Schwartz report. However, these were chosen from a much more

comprehensive series of recommendations proposed by this report, and were geared towards less urgent (CTAS level IV and V) patients, who are *not* substantiated in the literature as being a primary cause of emergency department overcrowding.¹⁴

The Expert Working Group and the Schwartz report arrived at similar conclusions about the primary causes of emergency department overcrowding: a lack of inpatient capacity and insufficient integration of community-based resources. Both reports recognized the broader, system wide issues associated with emergency department overcrowding. The Expert Working Group believes the Schwartz report provides a useful set of recommendations, and specifically wishes to support the following:

- ◆ Hospitals must optimize time for transfer of ED patients to inpatient units by improving patient flow and optimizing inpatient length of stay
- ◆ The Ministry must fully support and expedite the implementation of provincial reform on interfacility medical transport
- ◆ The Ministry must continue its support of enhanced community care through Community Care Access Centres, and assess other community supports on a regional basis, including rehabilitation and complex continuing care to optimize the right care in the right environment
- ◆ Standard benchmarks for ED length of stay should be established, subject to further recommendations provided in this Report
- ◆ The Ministry, together with other stakeholders, should determine the feasibility of integrating ED performance measures in accountability agreements and funding arrangements, subject to further recommendations provided in this Report

b. Understanding Emergency Department Wait Times

In late 2005, the Canadian Institute for Health Information (CIHI) released this report as the first in a series designed to understand emergency wait times in Canada.

According to the report, fourteen million Canadians visit EDs every year. Canada was shown as having the highest reported use of EDs, as well as the highest percentage (48%) of adults waiting more than two hours to be treated, as compared to Australia (29%), New Zealand (27%), U.K. (36%) and the U.S. (34%).

Higher volume EDs were found to see a higher percentage of severely ill patients, and teaching hospitals in urban areas tend to see a higher acuity patient population than rural EDs. Additionally, patients visiting EDs in teaching hospitals tend to have longer length of stay, regardless of severity.

¹⁴ Vertesi L. Does the Canadian Emergency Department Triage and Acuity Scale identify non-urgent patients who can be triaged away from the emergency department? *Can J Emerg Med.* 2004; 6(5): 337-42

The report also points out that the ED length of stay increases with age for all CTAS levels. This may be due to the higher prevalence of multi-system chronic diseases in elderly patients.

This report, along with future CIHI reports looking at specific factors affecting wait times in EDs and the extent to which system level issues such as bed occupancy rates influence wait times, will serve as an excellent amalgamation of existing data on the issue of emergency department overcrowding.

c. Hospital Report Card – Emergency Department Care 2005

This is a hospital specific report that uses a balanced scorecard format to describe Ontario ED performance, in order to facilitate quality improvement and support accountability. Data included in the report are gathered from both comprehensive EDs (located in acute care hospitals and open 24/7) and urgent care centres (located in hospitals but with restricted hours and services).

The 2005 report includes results from 92 of 124 (74.2%) voluntarily participating hospital corporations with EDs. Consolidation of this data allows individual hospitals to compare themselves with provincial averages and allows for benchmarking with respect to the indicators. Currently, nineteen indicators across five areas of performance are collected and reported. Below is a brief discussion of some of the key indicators relevant to the discussion of emergency department overcrowding.

i. Indicators of System Integration & Change

- a. Use of Standardized Protocols: the degree to which EDs are developing and using clinical practice guidelines and medical directives.
- b. Internal Coordination of Care: the degree to which EDs are engaging in strategies to facilitate internal coordination and address patient flow.
- c. External Partnerships: the degree to which EDs are directly engaged in initiatives with external healthcare providers and agencies.

Overall, Ontario EDs demonstrate good performance in the *Use of Standardized Protocols* indicator and average performance in the *Internal Coordination of Care* indicator. However, provincial scores were generally below average for the *External Partnerships* indicator. Therefore, the degree to which EDs and hospitals are directly engaged in system wide initiatives related to care coordination, evaluation and planning, along with communication and information sharing, requires improvement.

ii. Indicators of Clinical Utilization & Outcomes

- a. Pneumonia - Inpatient LOS \leq 2 days for pneumonia patients admitted from the ED: this measure provides an indication of the number of patients who could potentially be safely treated in the community rather than being admitted to hospital.

Overall, Ontario EDs exhibit average performance on this indicator. Improvement in performance will be contingent on an increased ability to safely treat patients in community settings.

iii. Indicators of Patient Satisfaction

- a. Responsiveness: includes patients' assessment of the amount of time they waited to see doctors and nurses and receive test results, assessment of team work, and staffs' responsiveness to their needs

Community and small hospitals tend to score more highly on this indicator than teaching hospitals. This accords with the documented longer ED length of stay in teaching hospitals.

What Other Jurisdictions Have Done to Remedy Emergency Department Overcrowding

Emergency department overcrowding is not an issue unique to Ontario. Many other national and international jurisdictions have initiated attempts to remedy ED wait time issues with varying degrees of success. The United Kingdom has achieved remarkable success in decreasing ED wait times, the result of changes at all levels of the healthcare system.¹⁵ Success in the United Kingdom highlights the need to develop integrated, system-wide solutions in response to the underlying problems driving emergency department overcrowding.

United Kingdom

In 2000, an aggressive target for emergency care was established for the United Kingdom: the goal by the end of 2004 was admission, discharge or transfer of 98% of patients within four hours of arrival to an Accident and Emergency centre (A&E). This was coupled with an aggressive and comprehensive emergency care reform strategy, and a government commitment to funding. Since implementation of the strategy, 96% of patients now spend four hours or less in A&E. Changes in emergency care have also led to improvements in the patient experience, an expanded workforce and skill-mix, and improved ambulance performance.

Based on the recognition that causes of emergency department overcrowding may not be identical in different communities, the first step in developing strategies to improve wait times in A&E centres involved the identification of problems at the local level. A diagnostic tool was used to pinpoint the main causes of delays in each A&E centre and results were used to help health communities better understand where they needed to focus their efforts in service improvement.¹⁶

Particularly successful measures implemented in the United Kingdom include:

- ◆ “See and treat” protocols: the first clinician to see a patient in the A&E also assesses, treats and discharges the patient
- ◆ Tackling delays in access to beds: setting a discharge date for all patients on admission; discharging patients earlier in the day; admitting elective surgery patients on the day of surgery rather than the day before; using specialized short stay units
- ◆ Tackling delays in access to specialist doctors: with the support of the Royal College of Physicians and Surgeons, senior doctors are freed from other duties when assessing patients in the A&E and see patients before more junior staff

¹⁵ Cass D. Once Upon a Time in the Emergency Department: A Cautionary Tale. *Ann Emerg Med* 2005; 46: 541-3

¹⁶ Department of Health. *Transforming Emergency Care in England*; 2004 Oct. Available from:

<http://www.dh.gov.uk/assetRoot/04/09/17/81/04091781.pdf> (accessed February 10, 2006)

- ◆ Establishing Assessment Units in the A&E staffed by a new group known as Acute Physicians
- ◆ Tackling delays in access to diagnostic investigations: process redesign such as point of care testing and the use of clinical protocols to enable allied health professionals to refer patients for diagnostic procedures

Canada

Nova Scotia attempted to address the issue of emergency department overcrowding by making additional long-term care beds available in the Halifax Regional Municipality. These efforts were intended to free up beds within the Capital District for medical and surgical patients, and help to reduce wait times in the emergency rooms.¹⁷ It is unclear how successful this initiative has been.

In British Columbia, Kelowna General Hospital (KGH) has initiated some successful interventions to improve the flow of patients through the ED, including¹⁸:

- ◆ A process to allow preliminary laboratory testing and x-rays to be done while patients are still in the waiting room. Preliminary results revealed an average savings of 2.2 hours in total ED length of stay for patients presenting with chest pain
- ◆ Advanced treatment at triage for asthma patients, based on standard protocols. This has decreased waiting time for asthma patients by half and has reduced the need for admission through earlier institution of treatment
- ◆ Introduction of an Ambulatory Care Area, used during peak times to provide a “fast track” system for patients with urgent but less-complicated ailments. By separating those patients from other more complicated cases, patient flow through the ED is improved
- ◆ Introduction of an ad hoc adjacent “overflow unit” where ED patients are managed until transfer to an alternative setting or discharge
- ◆ Improvements in discharge planning

In Manitoba, the Emergency Care Task Force for the Winnipeg Regional Health Authority submitted a report to the Minister of Health of Manitoba in July 2004. Among the recommendations made to reduce emergency department overcrowding were:¹⁹

- ◆ A Computerized Triage system (e-triage)
- ◆ Computerized Diagnostic Imaging Readers to view x-rays and CT scans
- ◆ Discharge facilitators

¹⁷ News Release: Nova Scotia Department of Health; 2004 Jan 27. Available from: <http://www.gov.ns.ca/news/details.asp?id=20040127002> (Accessed March 15, 2006)

¹⁸ Interior Health Authority - Media Release. Emergency Department at KGH – a national leader in emergency care; 2005 May 13. Available from: <http://www.interiorhealth.ca/NR/rdonlyres/9C178F95-5FE5-4B2F-9D04-6E18DD562117/2403/ERDeptatKGHNationalLeaderMay1305.pdf> (accessed March 15, 2006)

¹⁹ Emergency Care Task Force Report to the Honourable David Chomiak, Minister of Health, Province of Manitoba. Winnipeg Regional Health Authority; 2004 July 28. Available from: http://www.wrha.mb.ca/icare/initiatives/files/ECTF_July2004.pdf (accessed February 24, 2006)

- ◆ A “Fast Track” system to reduce wait times for less urgent patients
- ◆ Increased resources devoted to inter-facility transport
- ◆ Decreased turnaround times for laboratory tests for ED patients
- ◆ Elimination of scheduled visits in EDs
- ◆ Social work enhancements
- ◆ A “Left Not Seen” follow-up protocol where telephone contact is made with patients who leave EDs before being treated, to ensure they are receiving necessary medical care
- ◆ Implementation of a “tracking system” in all Winnipeg EDs and investigation of the feasibility of a “treat-not-transfer” protocol in the pre-hospital (EMS) environment

It is unclear how many of these recommendations have been implemented and whether any improvement in emergency department overcrowding has occurred as a result.

In Alberta, Calgary Health Region has implemented a number of successful initiatives that are now improving the efficiency of care delivered in EDs and increasing capacity across the system:²⁰

- ◆ Introduction of Code Burgundy in January 2001 to alert inpatient units to discharge patients wherever possible
- ◆ Introduction of the Regional Emergency Department Information System, which automatically tracks patients throughout their stay in the ED, allowing for more efficient streamlined care²¹
- ◆ Implementation of a Picture Archiving and Communication System (PACS), which captures, transmits and stores diagnostic images in digital form, allowing for better and faster care of patients in EDs²²
- ◆ Operation of “fast track areas”
- ◆ Implementation of Acute Admission Units that provide an area where ED patients awaiting admission can be moved until an inpatient bed becomes available
- ◆ Increasing system wide capacity by adding more than 200 new beds/spaces to hospitals and community-based settings

²⁰ Calgary Health Region - Newslink. The Evolution of Emergency Room Medicine – today patients often need a high level of medical care; 2003 May 21. Available from: http://www.calgaryhealthregion.ca/newslink/er_pack052103/evol_er052103.html (accessed February 24, 2006)

²¹ Calgary Health Region - Newslink. REDIS: New tracking system helps speed ER Traffic; 2003 May 21. Available from: http://www.calgaryhealthregion.ca/newslink/er_pack052103/redis052103.html (accessed February 24, 2006)

²² Calgary Health Region - Newslink. PACS: An investment in new technology improves patient care; 2003 May 31. Available from: http://www.calgaryhealthregion.ca/newslink/er_pack052103/pacs052103.html (accessed February 24, 2006)

Since February 2004, Capital Health has also been publicly reporting online data regarding the average wait times and average total length of stay by patients in four Edmonton EDs.²³

In Ontario, many facilities have implemented changes to attempt to improve ED wait times. The following are two examples. Toronto's St. Joseph's Health Centre (St. Joseph's) has been experiencing increasing ED volumes with a concurrent rise in patient acuity levels. No expansion to physical space has occurred since 2002, and increased staffing has been difficult due to fiscal constraints and nursing shortages. Despite these limitations, St. Joseph's has implemented successful ED efficiency improvements to alleviate wait time through triaging paediatric, mental health, ambulatory and fast track patients to separate areas of the department from acutely ill patients on stretchers, and through implementation of a Clinical Decision Unit.²⁴

The Scarborough Hospital (TSH) has also been successful in ED wait time reduction through improvement in ED efficiency. Some measures taken to improve emergency department overcrowding included assigning a second triage nurse during peak times, scheduling additional nursing staff to meet ambulances and ensuring a ready supply of stretchers and equipment.²⁵ TSH has also introduced a Clinical Day Unit. If a patient's condition is considered urgent, but tests can be safely conducted within 10 hours, patients are discharged and return the next day to the Clinical Day Unit for scheduled tests and specialist consultation. The hospital has also pioneered a new triage system where nurses are able to initiate x-rays and blood work before a patient is seen by a physician.²⁶

It is of critical significance to note that, despite some improvements in ED wait time achieved through process efficiency improvement, *few* of these initiatives address the key root causes of emergency department overcrowding, namely lack of bed availability and lack of integration between community and hospital (see chapter three). Only two provinces, Nova Scotia and Alberta, have increased funding for beds.

²³ Capital Health – ER average wait times in Capital Health Emergency Departments. Available from: <http://www.cdha.nshealth.ca/newsroom/erwait/index.cfm> (accessed February 24, 2006)

²⁴ Duic M. Bed Allocation, Special Units And Other Strategies For Managing Overflow And Wait Times. Insight Information: 4th Annual Emergency Care Conference; 2005 June 20-21; Toronto ON.

²⁵ The Scarborough Hospital: Annual Report 2004/5. Available from: http://www.tsh.to/media/documents/TSH_AR_spreads_02.pdf (accessed March 3, 2006).

²⁶ The Scarborough Hospital: Emergency Department Information. Available from: http://www.tsh.to/patients/pat_ec_edl.aspx (accessed March 3, 2006).

Chapter 2. Emergency Department Overcrowding Data, Performance Targets and Accountability

In order to effectively define the extent of emergency department overcrowding on a facility-specific, regional or provincial basis, and in order to effectively evaluate the impact of any interventions to improve access to care, an appropriate standard numerical performance target is needed. This target must be easily measurable and reasonably attainable in the current funding climate. It must also be linked to the collection of reliable, complete, accurate, timely, usable – in a word, quality – data. An accountability framework should also be established, which is linked to performance in relation to the targets.

a. Recommended Ontario Performance Targets in Relation to Emergency Department Overcrowding

Ontario currently does not have in place any standardized measure of emergency department overcrowding with an associated performance target. As discussed in chapter 2, dramatic reductions in emergency department wait times have been achieved in the United Kingdom following the implementation of a four hour or less total wait time target, coupled with an extensive government financial commitment linked to accountability measures.

The Expert Working Group believes that the most relevant and practical measure of emergency department overcrowding is the patient total length of stay in the emergency department (ED length of stay). To that end the Expert Working Group recommends the following provincial performance targets for ED length of stay:

For those patients classified as urgent, emergent or requiring resuscitation, corresponding to Canadian Emergency Department Triage and Acuity Scale (CTAS) levels III, II and I: **ED length of stay of six (6) hours or less** (90th percentile). This target is congruent with that recommended by the Hospital Emergency Department and Ambulance Effectiveness Working Group in its report *Improving Access to Emergency Services: A System Commitment* (the “Schwartz Report”), although the data elements for the Schwartz indicator differ slightly (see below).

For those patients classified as less urgent or non urgent, corresponding to CTAS levels IV and V: **ED length of stay of four (4) hours or less** (90th percentile).

The Expert Working Group believes that different ED length of stay targets are required for patients triaged at different levels of acuity for the following reasons: most CTAS level IV and V patients do not require

extensive laboratory or radiological investigation, do not require referral to a specialist consultant, and ultimately do not require admission to hospital. These steps require time to complete and are almost always necessary for CTAS level I through III patients.

In addition to ED length of stay, the Expert Working Group believes that an additional indicator and performance target more closely linked to access to inpatient beds and overall acute care capacity is required. As will be discussed in greater detail in chapter 4 of this report, lack of inpatient bed availability may be a product of less than efficient management and use of existing funded beds, or may be a capacity issue whereby simply not enough funded beds, including acute care, long-term care, mental health, complex continuing care, convalescent and rehabilitation beds, and community resources exist. The Expert Working Group believes that a reasonable measure of bed availability for emergency department patients requiring admission is the ED time to admission.

In order to ensure that provincial performance target data is consistent and comparable to the greatest extent possible, standardized data elements should be collected for each of the recommended indicators. The Expert Working Group recommends that the following standardized data elements be adopted:

ED length of stay: Begins at the time of first patient encounter in the emergency department, either the time of triage nurse assessment or time of patient registration, whichever comes first. Ends when the patient departs the emergency department to home/ long-term care home OR to an inpatient bed, an operating room, a critical care bed, a clinical decision unit adjacent to the emergency department or another facility.

The Schwartz report recommended that the data elements be time from patient placement on an ED stretcher until time of admission to an inpatient unit or discharge. The Expert Working Group believes that this does not accurately reflect the total duration of patient ED length of stay, which should also include the time a patient spends in the care of paramedics/ambulance personnel while in the emergency room. The Expert Working Group supports the need for monitoring of ambulance offload time as a separate indicator of ambulance offload delay.

ED time to admission: Begins at the time an admission order is written OR the time a bed request is made, whichever comes first, once transfer is considered appropriate by both the referring emergency department physician and the most responsible physician accepting the patient for admission UNTIL the time of patient departure from the emergency department to an inpatient bed, an operating room, critical care bed or a clinical decision unit adjacent to the emergency department.

Reliable data are not yet available for current hospital performance in relation to emergency department time to admission. Therefore, it is recommended that establishment of a discrete numerical performance target for ED time to admission be revisited and reviewed by the Physician Hospital Care Committee within one year of the release of this report.²⁷ This review should be based upon data collected for this performance indicator, as well as input and feedback obtained through active engagement of providers of emergency and inpatient care.

Where an emergency department has a Clinical Decision Unit (CDU) adjacent to it, the impact of the CDU on ED length of stay should be measured. CDUs have been shown to positively influence ED length of stay and wait times.^{28,29,30,31} As such, collection and evaluation of the following data elements by each hospital with a CDU should take place: time of patient transfer to the CDU until time of patient departure to home/long-term care home, an inpatient bed, an operating room, or a critical care bed (total length of stay); time an admission order is written or a bed request is made until time of patient departure to an inpatient bed, an operating room or a critical care bed (time to admission). Total length of stay in the CDU should not exceed 24 hours. Time to admission for those patients admitted to hospital from the CDU should be the same as that for admission of a patient to hospital from the emergency department.

It is important to bear in mind that setting a target in and of itself is not sufficient to result in meaningful change. Rather, it must be linked with positive incentives and investment in necessary supporting infrastructure by the Ministry of Health and Long-Term Care (Ministry). It also requires the support and close involvement of senior administration to succeed. To this end, each Local Health Integration Network (LHIN), in partnership with hospitals and frontline healthcare workers and in consultation with the Ministry of Health and Long-Term Care, should develop, and where feasible pilot, positive incentive models for achievement of the recommended performance indicators and targets.

It is also key that the establishment of a performance target does not result in 'tunnel vision' and secondarily lead to a reduction in the quality of patient care through a singular effort to meet the target. For example, if efforts to meet the targets result in a compromise of or cost to other inpatient services, particularly those services which do not typically admit the majority of their patients through the emergency department such as surgery and obstetrics. Steps to meet ED length of stay and future ED

²⁷ The Expert Working Group recommends that the ED time to admission performance target be established at one hour.

²⁸ Shia FY. ED overcrowding in Taiwan: Facts and strategies. *Am J of Emerg Med.* 1999; 17: 198-202

²⁹ Duic M. Bed Allocation, Special Units And Other Strategies For Managing Overflow And Wait Times. *Insight Information: 4th Annual Emergency Care Conference; 2005 June 20-21; Toronto ON.*

³⁰ Proudlove NC. Can good bed management solve the overcrowding in accident and emergency departments? *Emerg Med J.* 2003; 20: 149-55

³¹ D'Souza HC, Miesle DJ. Observation care units: An essential of emergency departments. *The Academy Journal.* 1998 Oct; 1(1).

time to admission targets also should not work at odds with other initiatives aimed at improving patient access to care, such as the Ontario Wait Time Strategy.

Finally, success in meeting a performance target must be assessed through incremental improvement in performance rather than an expectation that targets be met soon after they are implemented. That said, it is useful to define milestones and to that end the Expert Working Group recommends that hospitals strive toward a 10 percent absolute improvement per year in relation to each of the ED length of stay and ED time to admission performance targets OR achievement of each of the performance targets at the 90th percentile within two years and at the 95th percentile within four years. It should be noted that both regional and interfacility differences must be taken into account as ED length of stay currently varies greatly between LHINs (figure 2.1) and between facilities within the same LHIN.

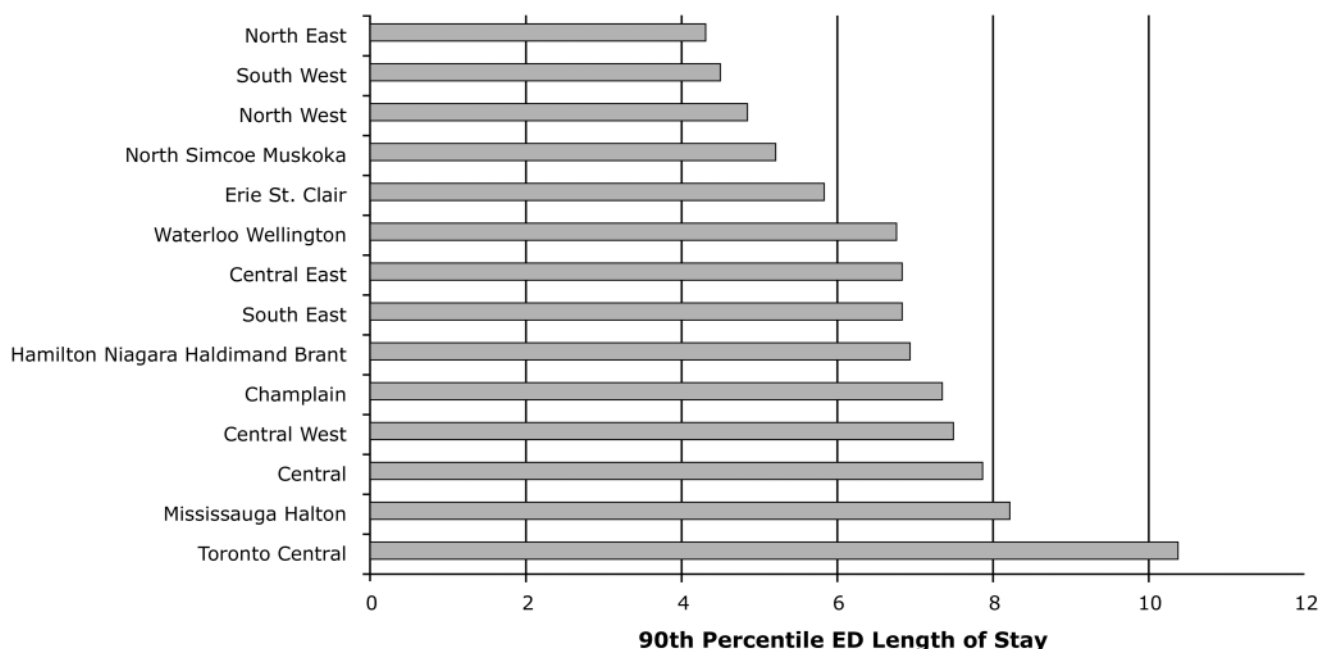


Figure 2.1 90th Percentile ED Length of Stay (Registration to Visit Complete) by LHIN, Ontario, 2004/05 Data
 Source: Institute of Clinical Evaluative Sciences, January 2006

Suggested tools that hospitals may consider using to improve ED length of stay and ED time to admission performance are provided in chapter three of this report.

b. Relevant Ontario Data

Currently, the Canadian Institute for Health Information (CIHI) collects certain data elements in relation to emergency departments, as part of the National Ambulatory Care Reporting System (NACRS). These include the time when a patient registers in the emergency department and the time when that patient

visit is recorded as complete; this allows calculation of the total length of stay of a patient in the emergency department, the same measure of emergency department overcrowding recommended by the Expert Working Group. NACRS also collects data on patient triage codes. CIHI collects hospital admission and discharge data through the Discharge Abstract Database (DAD). In Ontario, implementation of NACRS and DAD has been mandated and therefore these data are collected from every Ontario hospital. The current NACRS ED data set does not accurately or consistently capture a number of elements critical to assessing emergency department overcrowding, such as those required for ED time to admission measurement. For accurate performance measurement and improvement in relation to ED length of stay, the NACRS ED data set should be amended to incorporate the data elements for ED time to admission recommended above. Hospitals must submit data to CIHI quarterly and at fiscal year end; however, many hospitals submit data on a monthly basis.

In 2005, the Ministry implemented the Hospital Accountability Agreement (HAA) process, governing the funding, and associated performance obligations, of all public hospitals in Ontario. The HAA includes a series of performance indicators, which are linked to negotiated performance targets. Data relevant to each performance indicator must be submitted to the Ministry on a quarterly basis.

One grouping of performance indicators within the HAA relates to patient access to care and outcomes: relative acute length of stay (ALOS), relative total length of stay and relative risk of readmission to the same hospital. ALOS data exclude patients who can be appropriately treated in an alternate level of care (ALC) facility, while relative total length of stay data include them; hence, the ratio of ALOS to total length of stay is useful in reflecting hospital bed use by ALC patients.

Data on each of the HAA performance indicators are collected for specific CIHI-recognized case mix groups (CMGs). Currently, the CMGs for which data must be collected are: congestive heart failure; chronic obstructive pulmonary disease; acute myocardial infarction; diabetes mellitus; pneumonia; cerebrovascular accident; hip fracture; and hip replacement surgery.

Ontario, therefore, is fortunate to have two existing sources of data together with datasets relevant to evaluating patient access to care through the emergency department; one dataset relevant to wait times in the emergency department and others relevant to inpatient bed utilization and management. It is critical that the data are and continue to be of high quality in order for them to be of maximum usefulness in assessing and improving system performance, namely that they be collected in a reliable, complete, accurate, and timely manner.

c. How is Ontario Doing Right Now?

Looking to the performance targets recommended above and utilizing existing data available through NACRS, an analysis of how Ontario hospitals are currently performing can be carried out. As is evident from the table below (figure 2.2), all LHINs (except Toronto) have reached the 80th percentile in relation to the CTAS level IV and V ED length of stay target, and some have already surpassed the 90th percentile. In addition, most LHINs (except Toronto) are above the 70th percentile in relation to the CTAS level I, II and III ED length of stay target. Similarly, community hospitals have reached the 80th percentile, and small hospitals have already surpassed the 90th percentile, for both performance targets. As might be expected, teaching hospitals, with their frequently more complex patients and resident teaching obligations, are a little further behind.

Proportion of Patients with ED LOS < 6 Hours for CTAS 1-2 and < 4 hours for CTAS 4-5	CTAS 1-3 < 6hours		CTAS 4-5 <4 hours	
	Proportion	%	Proportion	%
Overall	0.79	78.73	0.88	88.16
LHIN				
Central	0.73	72.62	0.85	84.68
Central East	0.81	81.37	0.87	87.50
Central West	0.77	76.52	0.87	87.30
Champlain	0.76	75.78	0.86	86.30
Erie St. Clair	0.82	81.96	0.90	89.86
Hamilton Niagara Haldimand Brant	0.78	77.80	0.87	87.07
Mississauga Halton	0.73	73.10	0.87	86.73
North East	0.89	89.11	0.94	93.71
North Simcoe Muskoka	0.87	87.06	0.91	90.63
North West	0.86	85.73	0.94	93.62
South East	0.83	82.69	0.85	84.64
South West	0.88	88.07	0.94	93.58
Toronto Central	0.65	65.25	0.77	76.86
Waterloo Wellington	0.80	80.21	0.82	82.18
Hospital Type				
Community	0.80	80.21	0.88	88.00
Small	0.92	91.60	0.96	95.93
Teaching	0.70	69.84	0.77	76.51

Figure 2.2 Percentage of hospitals by LHIN region meeting Expert Working Group recommended ED LOS performance targets
Source: Institute for Clinical Evaluative Sciences, February 2006

This analysis demonstrates that most Ontario emergency departments are currently not that far from meeting the recommended ED length of stay performance targets, and that these are not unrealistic goals. In addition, Ontario is starting from a similar emergency department overcrowding position to the United Kingdom, which has achieved substantial success in only a few years.

d. Collecting and Using the Data

Collection of data requires infrastructure and resources. Ideally, real-time web-based collection of ED length of stay and ED time to admission data should be put into place. In the absence of this provincial capacity, hospitals should ensure they are able to collect these data at least on a quarterly basis.

Collecting quality data is not an end unto itself; rather, it must be linked with relevant analysis of that data in order to evaluate and improve performance, and undertake necessary planning to support performance improvement. With mandated collection of patient access to care data pursuant to the HAA, hospitals will have a wealth of information with which to assess their performance in this regard.

The Expert Working Group recommends that each Ontario hospital regularly evaluate its ALOS, total length of stay and relative risk of readmission data to determine its performance in relation to peer hospitals, and LHIN-specific or provincial targets once these are established. In addition, each Ontario hospital should evaluate its ED length of stay and ED time to admission data to evaluate performance as compared to recommended targets. If a hospital is not meeting the recommended ED length of stay and future ED time to admission performance targets, administrators should undertake a root cause assessment of emergency department overcrowding in the facility, and take steps to address the causes. Suggested interventions and solutions are provided in chapter three of this report. Once implemented, the success of any intervention should be evaluated against the ED length of stay and future ED time to admission targets.

In addition to ED length of stay and ED time to admission data, individual hospitals may choose to collect additional data elements within the overall ED length of stay indicator, in order to more accurately assess specific areas of performance based upon a root cause analysis and evaluate quality improvement measures in those areas. ED time to admission is already a sub-segment of the ED length of stay indicator; additional process sub-segments that may be of use include: time from triage to placement in a room or on a stretcher; time from triage until patient assessed by ED physician; specialist consultation completion time; diagnostic imaging completion and reporting times; time from discharge to departure from the ED for non-admitted patients.

e. An Accountability Framework

i. Hospital Accountability

The setting of targets and collection of data related to those targets is rendered all the more powerful by linking them to an accountability framework that is associated with positive incentives. As discussed above, Ontario has recently put into place the HAA initiative, which will govern the funding of public hospitals through a contractual arrangement linked to hospital performance; the HAA provides an opportunity to

establish the necessary accountability link for ED length of stay and future ED time to admission performance targets. As such, the Expert Working Group recommends that both the ED length of stay performance indicator and targets and the ED time to admission performance indicator be immediately incorporated into the HAA as developmental indicators. The ED length of stay indicators and targets should be incorporated into the HAA as full Performance Indicators within one year. The next HAA is scheduled to come into effect on April 1, 2007. Performance in relation to these indicators should achieve at least a 10 percent absolute improvement per year, or achievement of the targets at the 90th percentile within two years and at the 95th percentile within four years.

The current case mix group for which Performance Indicator data are collected under the HAA includes several of the top medical admitting diagnoses from the emergency room but also includes a number of surgical diagnoses such as hip fracture and hip replacement surgery. In order to better serve as an indicator relevant to access to emergency care, the Expert Working Group recommends that the case mix group be revised to reflect only the most common emergency department medical admitting diagnoses.

In addition, HAA indicators are under development to assess the degree of integration between hospitals and Community Care Access Centres (CCACs). The Expert Working Group encourages refinement of these indicators and their inclusion in the HAA as Performance Indicators as soon as possible.

ii. Community Care Accountability

It is not only hospitals that must have an accountability framework for performance in reducing ED length of stay and ED time to admission. As will be discussed in greater detail in chapter three, community-based health care services such as home care and long-term care play a key system role in reducing emergency department overcrowding and enhancing patient access to care through: increased hospital avoidance by patients; increased timely discharge of patients; and increased community provision of certain health care services which do not require admission to hospital (hospital substitution).

CCACs are the central access and coordination point for community-based healthcare services; the 42 existing CCACs are scheduled to be amalgamated into 14 to align with the new LHIN boundaries in 2006/07. With this amalgamation will come LHIN-based performance agreements, and it is through this vehicle that an accountability framework can be established for CCACs. In addition, as will be discussed in chapter three, formal partnership agreements exist between some hospitals and CCACs and should be put into place provincially; these can serve as another channel to ensure accountability.

The Expert Working Group recommends that a common set of CCAC performance indicators be developed by the Ministry together with relevant professional associations, including the Ontario Association of Community Care Access Centres, the Ontario Hospital Association and the Ontario Medical Association.

This should take place by April 1, 2007. These can then be incorporated into CCAC performance agreements with the LHINs, LHIN-Ministry accountability agreements, Integrated Health Service Plans, or if a hospital-CCAC partnership agreement is developed before a LHIN agreement, into this document. The indicators should measure the degree of hospital diversion resulting from the provision of CCAC services that enable patient care to be provided in the home, rather than in hospital or an emergency department. Performance indicators could be developed to measure some of the following:

- ◆ The penetration rate of ED CCAC referrals
- ◆ The admission rate of CCAC assessed clients in the ED
- ◆ The 48 hour ED return rate of CCAC assessed clients
- ◆ The time to patient placement in an alternate level of care facility

In addition, the Ministry together with relevant professional associations should establish a threshold occupancy rate by Alternate Level of Care patients in acute care facilities which, once met, signals that priority access to long-term care beds is required.

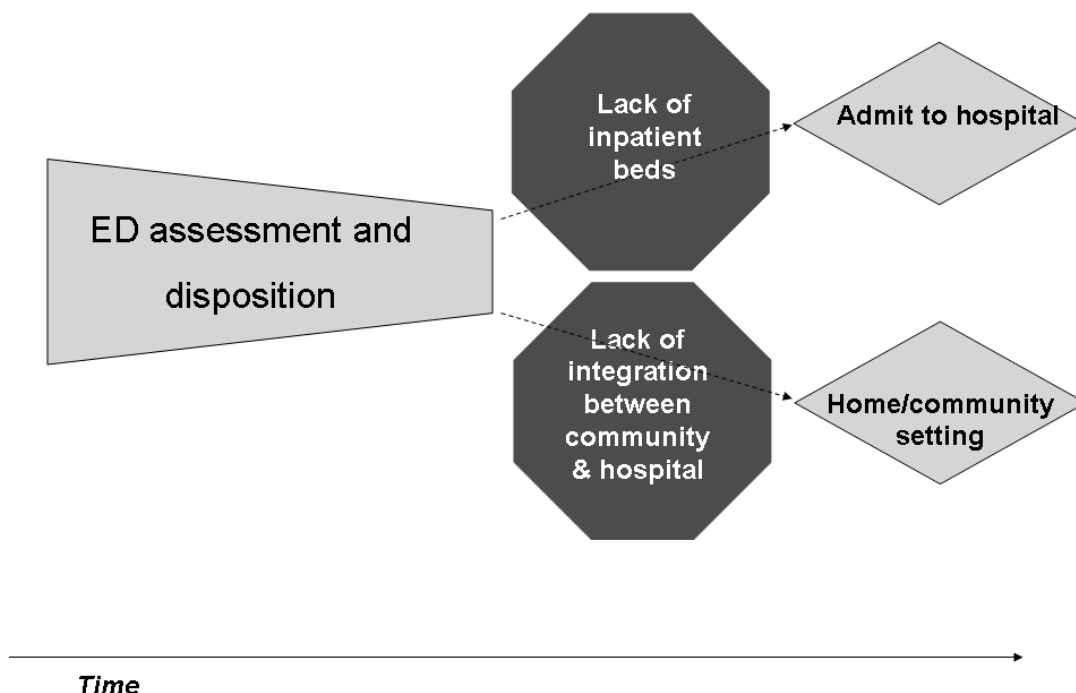
Chapter 3. Overcoming the Problem of Emergency Department Overcrowding

An Overview of the Causes of Emergency Department Overcrowding

Emergency department overcrowding is often attributed to non-urgent patients congesting the ED or to inefficiency of ED processes. In truth, the causes of emergency department overcrowding are multifactorial, complex, and systemic in nature. The causes identified in this report are system wide in nature and extend into the community, the ED and hospital. As a result, developing solutions to emergency department overcrowding becomes extremely challenging; however, pragmatic and implementable solutions will have a substantial and sustainable impact.

For the purposes of this report, the Expert Working Group has clustered the causes of emergency department overcrowding into two overarching “macro causes”: ‘Lack of Bed Availability’ and ‘Lack of Integration Between Community and Hospital’ (figure 3.1). Embedded in these macro causes is a series of other micro level problems; however, the Expert Working Group believes that real change will only be achieved by tackling the bigger picture. Hence, the suggested toolkit interventions and recommendations in this report are aimed at these overarching causes.

Figure 3.1
Obstacles Inhibiting Continuous Patient Flow Through the Healthcare System



“The Mythology” of Emergency Room Overcrowding

In reviewing the evidence and literature it became apparent that a number of seemingly intuitive ‘causes’ of emergency department overcrowding were not in fact the primary drivers. It is important to dispel myths surrounding this issue, and to address root causes of emergency department overcrowding when considering and designing appropriate interventions and strategies to improve ED wait times. Below are some of the common myths regarding the causes of emergency department overcrowding, and the realities from review of the literature on this topic.

a. The inappropriate use of emergency departments by walk-in patients, or patients with comparatively minor illnesses, is causing emergency department overcrowding

Although Canadian Triage and Assessment Scale (CTAS) level IV and V patients comprise a significant proportion of overall ED visits, a relatively small percentage (<5%) of them require hospital admission and the associated resources. Indeed, long care delays within the ED are related to waits for ED beds; therefore, diverting low acuity CTAS level IV and V patients away from the ED would only minimally reduce the demand for ED beds and only minimally impact wait times. In addition, a small proportion of CTAS level IV and V patients do end up requiring admission and triaging them away from the ED could result in negative outcomes.^{32, 33} Triage protocols at every hospital in Canada ensure that patients most in need of urgent care will always be moved to the head of the line.³⁴

Walk-in patients are also usually of lower acuity, require fewer time consuming investigations, and result in fewer hospital admissions.³⁵ Therefore, they are also not a primary cause of emergency department overcrowding.

³² Vertesi L. Does the Canadian Emergency Department Triage and Acuity Scale identify non-urgent patients who can be triaged away from the emergency department? *Can J Emerg Med.* 2004; 6(5): 337-42.

³³ Schull MJ, Kiss A, Katic M. The effect of low-acuity patients on emergency department waiting times: Results from the CROWDED study. *Acad Emerg Med* 2005; 12: 9.

³⁴ Canadian Association of Emergency Physicians Backgrounder. ED Overcrowding in Canada: Myth and Reality; 2004 June. <http://www.caep.ca/002.policies/002-05.communications/2004/040614.bgnd-overcrowding.pdf> (accessed April 25, 2006)

³⁵ Schull MJ, Lazier K, Vermeulen M, Mawhinney S, Morrison LJ. Emergency department contributors to ambulance diversion: A quantitative analysis. *Ann Emerg Med.* 2003; 41(4): 467-76

b. Seasonal outbreaks cause emergency department overcrowding

Although seasonal outbreaks, such as influenza or Norwalk virus, do cause sporadic increases in ED patient volumes, the impact is generally brief and therefore outbreaks do not contribute substantially to emergency department overcrowding.^{36,37} As opposed to being a primary cause of emergency department overcrowding, seasonal outbreaks are primarily indicative of reduced system flexibility to cope during periods of peak demand.³⁸

The effect of implementation of the Ontario Universal Influenza Immunization Program on emergency department overcrowding has yet to be evaluated.

c. Emergency department overcrowding is due to poor management in emergency departments and the inefficiency of physicians and staff

The number of admitted patients held in the ED and waiting for access to an inpatient bed is the key driver of prolonged ED waits and emergency department overcrowding.³⁹ No ED process can overcome a lack of available inpatient beds. Excessive workloads due to emergency department overcrowding can, however, lead to decreased physician and nurse job satisfaction and thereby impact patient care and ED operational efficiency.^{40,41}

d. Emergency department overcrowding is caused by higher patient volumes

The total volume of patients presenting to a given ED is not an important predictor of emergency department overcrowding; in many regions, total volumes have actually decreased while emergency department overcrowding has worsened.⁴² However, the volume of specific subgroups of patients, such as the elderly, are increasing.

³⁶ Schull MJ, Mamdani MM, Fang J: Community influenza outbreaks and emergency department ambulance diversion. *Ann Emerg Med.* 2004; 44: 61-7

³⁷ Schull MJ, Slaughter PM, Redelmeier DA. Urban Emergency Department overcrowding: Defining the problem and eliminating misconceptions. *Can J Emerg Med.* 2002; 4(2): 76-83.

³⁸ Drummond A. Wait times in Canadian emergency departments. Health Canada; 2004 Mar 31.

³⁹ Schull MJ, Slaughter PM, Redelmeier DA. Urban Emergency Department overcrowding: Defining the problem and eliminating misconceptions. *Can J Emerg Med.* 2002; 4(2): 76-83.

⁴⁰ Drummond A. Wait times in Canadian emergency departments. Health Canada; 2004 Mar 31.

⁴¹ Canadian Association of Emergency Physicians. Background: Emergency department overcrowding in Canada: Myth and reality; 2004 June. http://www.caep.ca/002_policies/002-05_communications/2004/040614.bgnd-overcrowding.pdf (accessed April 25, 2006)

⁴² Schull MJ, Slaughter PM, Redelmeier DA. Urban Emergency Department overcrowding: Defining the problem and eliminating misconceptions. *Can J Emerg Med.* 2002; 4(2): 76-83.

e. Investment in initiatives such as TeleHealth and primary healthcare reform will alleviate emergency department overcrowding

Although recognized as important initiatives for improving access to primary health care services in Ontario, initiatives such as TeleHealth and primary healthcare reform will not impact emergency department overcrowding.⁴³ The types of ED patients linked to emergency department overcrowding, that is CTAS levels 1 through III, are those who would be appropriately coming to the ED even if alternate sources of primary care are available.⁴⁴ There may, however, be a role for these initiatives in the better management of chronic diseases, such as chronic obstructive pulmonary disease, congestive heart failure and diabetes, in the community, which could lead to better health, and fewer ED visits and hospital admissions.

f. The rate of emergency department visits and admissions to hospital are highly unpredictable

Natural variability in emergency department visits and admissions is in fact highly predictable, and most EDs can reasonably predict the number and type of emergent admissions they will generate.⁴⁵

⁴³ Mamdani M, Degani N, Moineddin R, Kopp A, Schull MJ, Chan B. The Impact of Telehealth Ontario on emergency department utilization: An observational time series analysis. Toronto: Institute for Clinical Evaluative Sciences. June 2004.

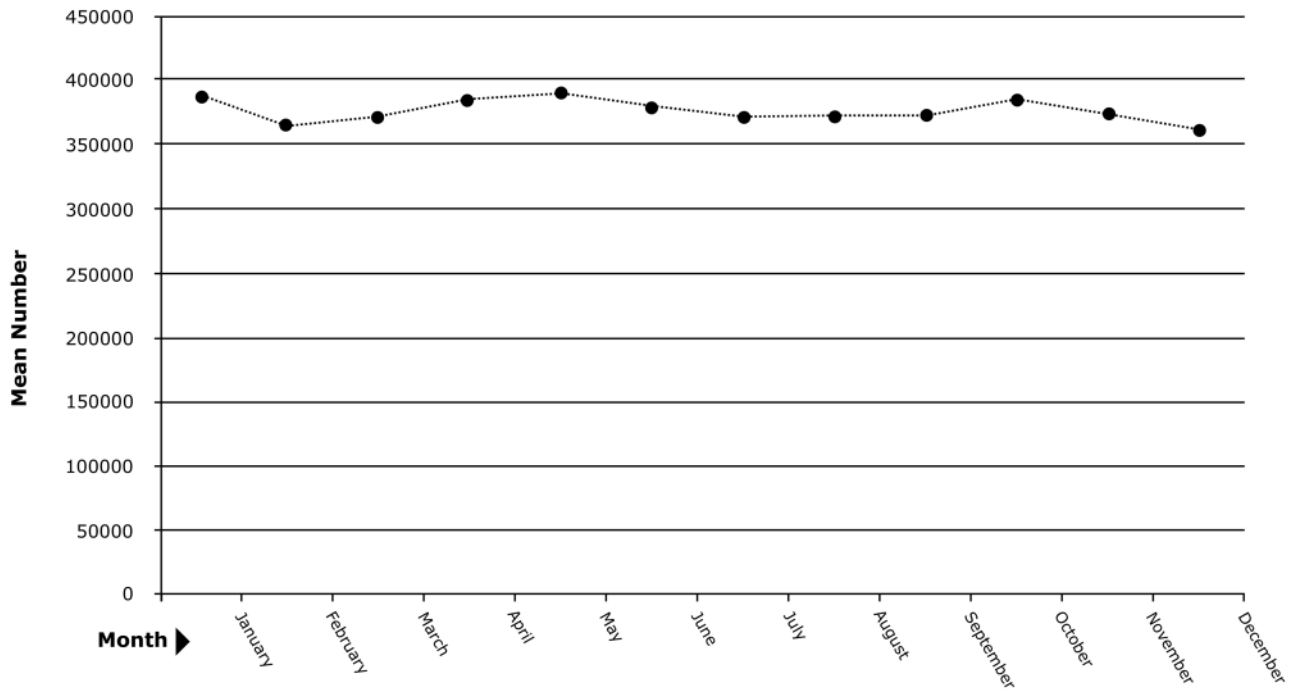
⁴⁴ Ibid

⁴⁵ Innes G, Vertesi L. Causes and solutions for emergency department overcrowding: A systematic review. 2004 Oct 29. Unpublished.

Another common misconception is that hospital medical admissions peak seasonally, particularly during the winter; figure 3.2 demonstrates that the average number of medical admissions is fairly consistent from month to month, with no particular seasonal peak.

Figure 3.2 Average Number of Medical Admissions per Month, April 2000 to March 2005 (excluding 03/04)

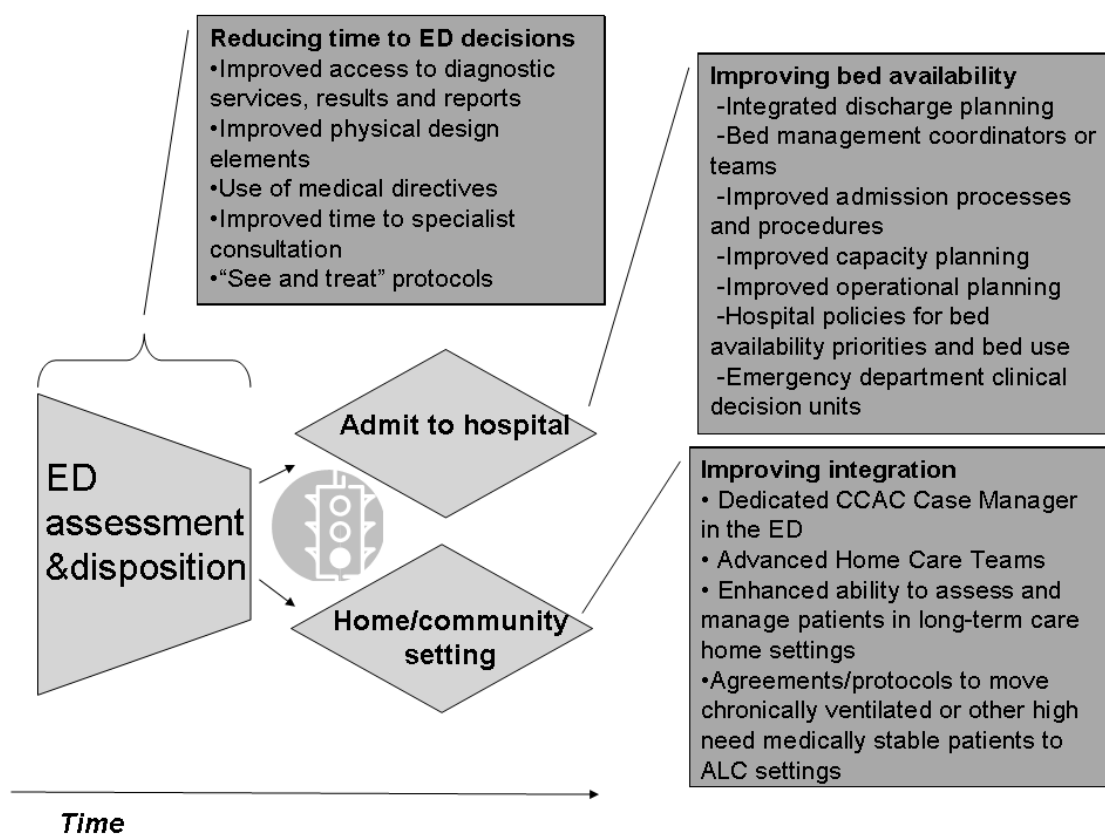
Source: Institute for Clinical Evaluative Sciences, February 2006



Recommended Solutions and a Toolkit for Organizations

In order to increase patient flow through the system and diminish the impact of emergency department overcrowding, the Expert Working Group has suggested a variety of tools and recommendations to aid healthcare stakeholders and government. The Expert Working Group considers it necessary to implement *all* of the recommendations put forth in this report in order to make a significant difference in improving emergency department overcrowding. In addition to these crucial recommendations, the Expert Working Group is providing a set of suggested toolkit interventions to assist healthcare providers in alleviating emergency department overcrowding. Because each healthcare setting is unique, there cannot be a “one size fits all” solution, therefore, these interventions are being provided as part of a toolkit that healthcare organizations may choose from after doing their own root cause analysis of emergency department overcrowding. The diagram below provides a high level overview of these tools.

Figure 3.3 Tackling the Obstacles: Suggested Tools



The Expert Working Group also recommends that the Ontario Hospital Association, Ontario Medical Association and Ministry of Health and Long-Term Care, in collaboration with Local Health Integration Networks, establish an annual forum to allow healthcare stakeholders to share best practices for improving patient access to emergency care services.

a. Lack of Bed Availability

The literature has consistently demonstrated that a shortage of beds, both absolute and relative, plays a major role in emergency department overcrowding. The number of acute care beds in Ontario fell by 22% as part of a hospital restructuring process during the mid to late 1990s.⁴⁶ This resulted in increases in both severe and moderate emergency department overcrowding.⁴⁷ Relative, but nonetheless important, reductions in bed capacity are a result of high alternate level of care patient occupancy levels⁴⁸ and the less than optimal use of existing beds. Acute care bed occupancy rates rose from 85.6% in 1994/95 to 96% in 2000.⁴⁹ Occupancy rates have remained consistently above 90% since then.

Modelling regarding the effects of bed reductions on patient care has concluded that bed delays will become apparent when bed occupancy rates rise above 85%. If rates rise to 90% or higher, regular bed shortages and periodic bed crises can be expected.⁵⁰ The US Institute for Healthcare Improvement (IHI) also assumes an 85% occupancy rate in documents addressing optimal patient flow⁵¹ Further, the duration that admitted patients wait in the ED is influenced by bed occupancy rates: a 10% absolute increase in occupancy has been shown to result in a 5% longer wait for an ED patient to arrive in a hospital bed, with the majority of that increase in ED length of stay occurring when bed occupancy exceeds 90%.⁵² Another observational study measured the impact of reducing hospital occupancy on ED census and ED wait times, and concluded that modest decreases in hospital occupancy will lead to highly significant reductions in ED wait times.⁵³

Ensuring appropriate bed occupancy levels, at 85% or lower, is also crucial in ensuring a level of bed surge capacity for unforeseen events. The need for surge capacity was amply demonstrated during the SARS outbreaks of 2003 and is critical in planning for such things as an influenza pandemic.

⁴⁶ Ontario Hospital Association. A matter of hospital resources: An emergency care action plan. Toronto ON; 2000 Aug.

⁴⁷ Schull MJ, Szalai JP, Schwartz B, Redelmeier DA. Emergency department overcrowding following systematic hospital restructuring: Trends at twenty hospitals over ten years. *Acad Emerg Med.* 2001; 8: 1037-42.

⁴⁸ Keeping in mind that ALC patient numbers are frequently underreported, levels of ALC bed occupancy appear to range from 5 to 15% across Ontario LHINs (preliminary analysis by Institute of Clinical Evaluative Sciences)

⁴⁹ Ontario Hospital Association. A matter of hospital resources: an emergency care action plan. Toronto ON; 2000 Aug.

⁵⁰ Bagust A, Place M, Posnett JW. Dynamics of bed use in accommodating emergency admissions: Stochastic simulation model. *BMJ.* 1999; 319:155-8

⁵¹ For example, *Optimizing Patient Flow: Moving Patients Smoothly Through Acute Care Settings*, Boston, Massachusetts: Institute for Healthcare Improvement; 2003. Available from: <http://www.ihl.org/IHI/Results/WhitePapers/OptimizingPatientFlowMovingPatientsSmoothlyThroughAcuteCareSettings.htm> (accessed March 13, 2006)

⁵² Forster AJ, Stiell I, Wells, G, Lee AJ, van Walraven C. The effect of hospital occupancy on emergency department length of stay and patient disposition. *Acad Emerg Med.* 2003; 10: 127-33

⁵³ Dunn R. Reduces access block causes shorter emergency department waiting times: An historical control observational study. *Emergency Medicine* 2003; 15: 232-238

Lack of inpatient bed availability is one of the fundamental underlying causes of emergency department overcrowding. It may be either relative or absolute; that is, it may be due to a relative inefficiency in the management of an existing number of funded beds or to an absolute shortage in the number of funded inpatient beds. In one case, process improvements have the potential to make a substantial difference; in the other, there is no viable solution to the problem without funding of additional beds.

Figure 3.4 illustrates that the number of medical admissions, which are primarily admissions from the ED, is correlated with the number of beds available, with some variability. The Expert Working Group recommends that the Ministry of Health and Long-Term Care, in consultation with the Ontario Hospital Association through the Joint Planning and Policy Committee and the Ontario Medical Association, should immediately develop a methodology to assess acute care bed needs based upon the number of emergency department admissions, the number of existing beds and the level of Alternate Level of Care bed occupancy. In defining the methodology, input from Local Health Integration Networks should be sought, and work done by other Expert Panels, such as that dedicated to Surgical Process Improvement, leveraged as appropriate. This metric will need to capture regional population demographics and population health status.

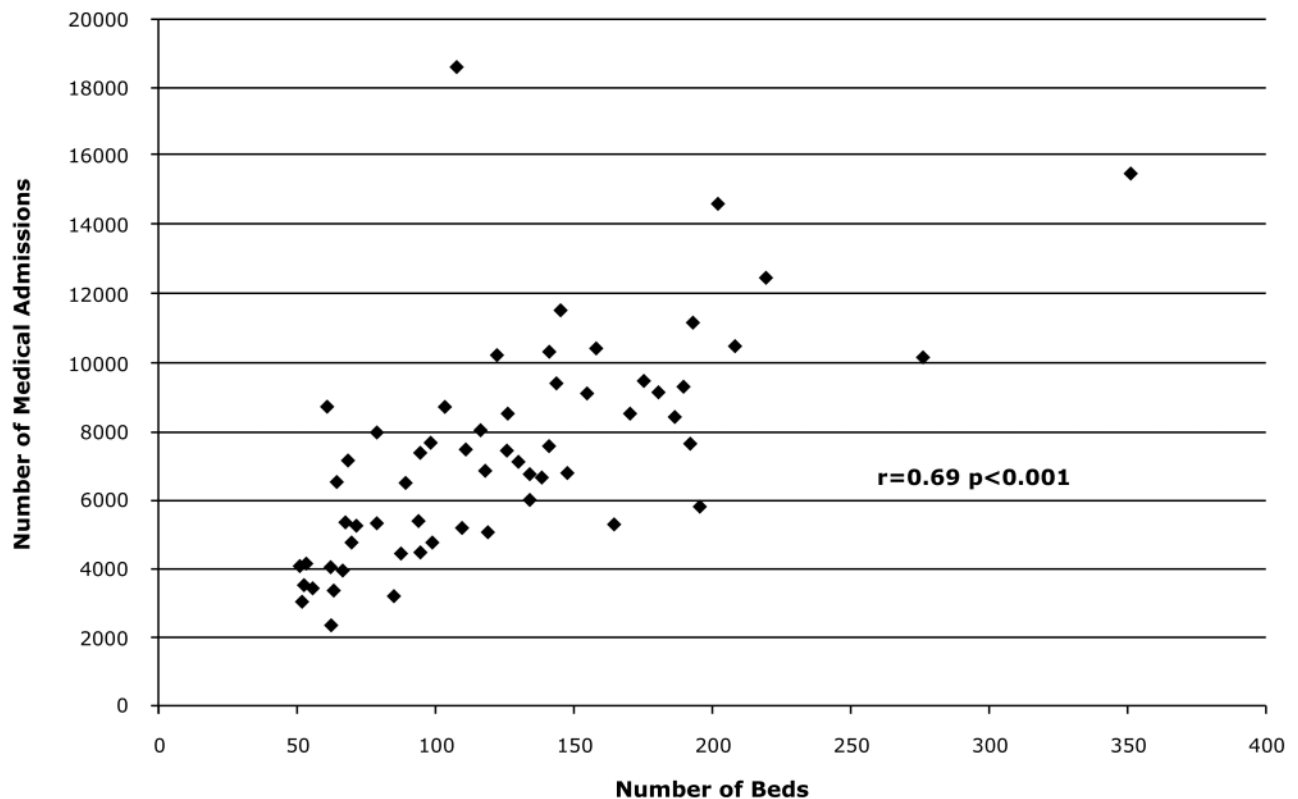


Figure 3.4 Correlation between Number of Beds (Medical + combined Medical-Surgical) and Medical Admissions - all Ontario hospitals with 50 or more beds, Fiscal 2003
 Source: Institute for Clinical Evaluative Sciences, March 2006

i. Acute Care Capacity

An absolute shortage of funded beds is just that – absolute. No process improvement can alleviate it. The Expert Working Group appreciates that governments are increasingly demanding accountability for the use of public funds; however, past bed closures have left some hospitals in a situation whereby the number of elective and non-elective admissions is greater than the inpatient bed capacity. This is resulting in excessive bed occupancy rates, and emergency department overcrowding.

The problem is rooted in more than just a shortage of hospital beds however; it is related to a lack of overall acute care *capacity*. This includes a scarcity of funded acute care beds, mental health beds, long-term care beds, rehabilitation beds, complex continuing care beds, convalescent beds and community resources: the right bed for the right patient to provide the right level of care.

Shortage of acute care capacity varies from region to region, as does the type of bed needed. In some areas, there is a lack of acute care and/or intensive care beds. In other areas, there is a lack of alternate level of care beds, including long-term care, rehabilitation beds, and complex continuing care beds. Therefore, as an initial step in assessing acute care capacity, a ‘big picture’ analysis of bed utilization, bed needs and community resource availability is required. The Expert Working Group believes that this can be most efficiently carried out by each of the Local Health Integration Networks (LHINs), as part of creation of Integrated Health Services Plans: each LHIN should carry out a regional acute care, mental health, rehabilitation, complex continuing care, convalescent *and* long-term care bed utilization and community resources availability assessment and from this develop an acute care capacity needs evaluation. From this a costing analysis can be carried out on a regional basis.

On a hospital specific basis, the Expert Working Group recommends that where:

- a) The Community Care Access Centre (CCAC) working with the hospital has met its performance obligations with the LHIN or with the hospital, through relevant agreements (see recommendation three)
- b) The hospital has met its Relative Acute Length of Stay performance obligations, and any future CCAC integration performance obligations, under the Hospital Accountability Agreement (HAA)
- c) The hospital has optimized its bed management strategies and emergency room processes (both discussed in further detail below), and
- d) The hospital is unable to reach the recommended ED length of stay performance targets, and *in particular* any future ED time to admission target, taking into consideration any relevant performance corridors set in the Hospital Accountability Agreement

the Ministry must accept that this is an absolute capacity problem requiring additional funding, through the annual planning and budget cycle, of one or more of acute care beds, mental health beds, long-term care beds, rehabilitation beds, complex continuing care beds, convalescent beds and community resources.

ii. Suggested Tools to Assist Bed Management

Not all problems with lack of bed availability are due to acute care capacity problems; improvement in bed management processes can have a significant impact on bed occupancy rates, hospital length of stay and thereby emergency department overcrowding.

One illustration of where effective bed management strategies can have an impact is ‘smoothing’ the degree of variability in admission and discharges by day of the week. Clearly, admissions are not balanced with discharges and discharges occur far less frequently on weekends (figure 3.5).

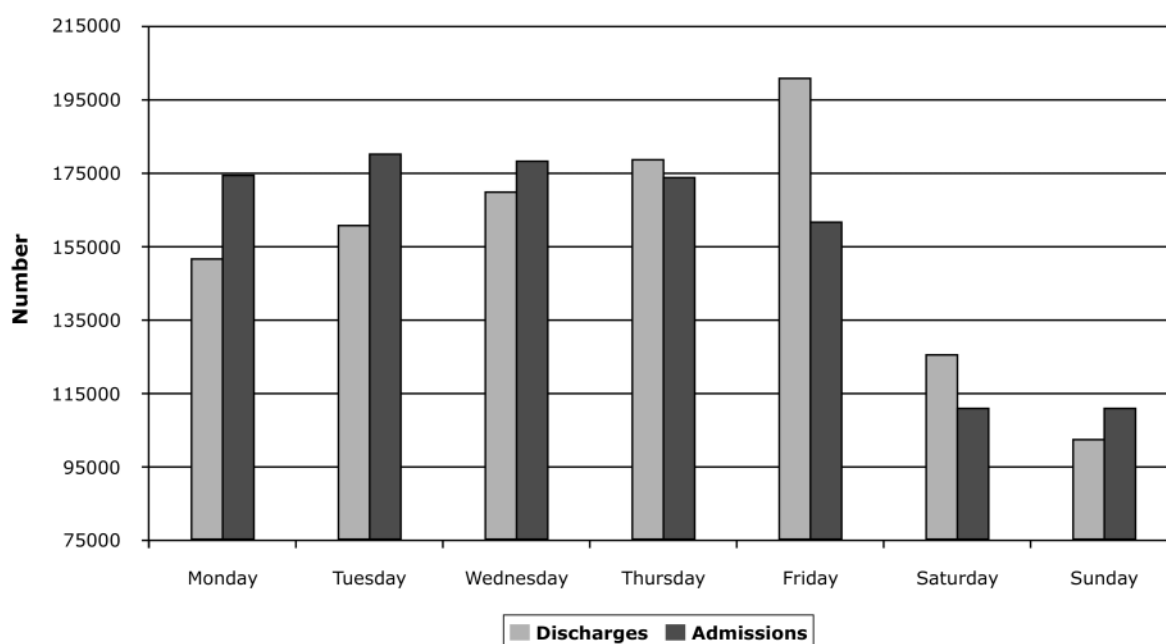


Figure 3.5
Number of admissions and discharges by day of week, all Ontario hospitals, 2004/05
 Source: Institute for Clinical Evaluative Sciences, January 2006

The performance and efficacy of implemented bed management strategies can be evaluated through their impact on ED Time to Admission and ED Length of Stay, as well as relative acute length of stay (ALOS) and relative total length of stay. A number of suggested tools related to bed management are provided below; in keeping with the toolkit approach, these may or may not be used by a given hospital, depending on processes already in place and a root cause analysis of emergency department overcrowding in that facility. The Expert Working Group recommends that each hospital carry out a root cause analysis of emergency department overcrowding before embarking on any intervention, including those suggested here.

It is crucial to stress that effective bed management strategies do NOT include any bed management policy or procedure that:

- ◆ Compromises the delivery of acute care services, including care delivered in the emergency department
- ◆ Decreases or otherwise affects surgical throughput or flow
- ◆ Substantially affects the number of elective admissions

1. Integrated discharge planning

Integrated discharge planning should begin at the point of admission. Discharges should always be anticipated and planned for accordingly. The Aintree and Bath Trusts in the UK have developed a system that assigns a patient an expected discharge date upon admission to the hospital.⁵⁴

Anticipated discharges should be scheduled a day ahead. Patient care and diagnostic information should be clearly set out in a discharge summary sent with a discharged patient. Diagnostic testing information should be made available to clinicians on a timely basis. Entering discharge and diagnostic testing data electronically, for example into an electronic patient record or through a computerized physician order entry system (CPOE), can optimize this process.

Designated discharge lounges can serve as a holding ground for those patients that have been discharged on paper.⁵⁵ The success of these lounges depends on the ability of the staff to “pull” patients into these lounges.⁵⁶

Integrated Discharge Planning⁵⁷

Grand River Hospital (GRH) and the Community Care Access Centre of Waterloo Region have implemented an integrated discharge planning model whereby the traditional roles of the CCAC Case Manager and the GRH Discharge Planner have been merged, accompanied by new referral and accountability structures. Through this model, the integrated Case Manager/Discharge Planner is employed by the CCAC, with accountability for his/her activities shared by both GRH and the CCAC. This has resulted in all discharge activities being the responsibility of one organization, which has made the entire discharge process, including planning, more streamlined with less duplication and greater client/patient involvement. In turn, this has led to clear cost savings, time savings, improved efficiency and greater client/patient satisfaction.⁵⁸

⁵⁴ Proudlove NC. Can good bed management solve the overcrowding in accident and emergency departments? *Emerg Med J.* 2003; 20: 149-55.

⁵⁵ Innes G. Improving flow and efficiency in the emergency department. 2005 Sept. Unpublished.

⁵⁶ Proudlove NC. Can good bed management solve the overcrowding in accident and emergency departments? *Emerg Med J.* 2003; 20: 149-55.

⁵⁷ Ibid

⁵⁸ Grand River Hospital (GRH) and the Community Care Access Centre of Waterloo Region (CCACWR): Integrated Discharge Planning Project.

2. Bed management coordinators or teams

Bed management coordinators or teams have a critical role in determining, acquiring and maintaining a supply of empty beds across the hospital, effectively acting as 'gatekeeper' for admissions. They should also develop contingency plans that are triggered when the hospital reaches a critical bed occupancy level. Finally, they should have an active *ward level* discharge coordination function⁵⁹

Bed Managers⁶⁰

Bed managers have been hired at the South Manchester University Hospitals NHS Trust, working seven days a week from 8 am to 8 pm. The main objective of the manager is to collect information that will minimize bed occupancy levels. Managers will spend their time walking through wards, determining bed status in order to balance the demand for beds to accommodate emergency and elective needs. The predominant challenge has been the accuracy of the information collected as well as its timeliness.

3. Improve admission processes and procedures

Admissions must be efficient in terms of process; they must also be appropriate in that the patient admitted is one that cannot be managed safely and effectively outside of hospital. If possible, electronic admission processes should be utilized with real-time exchange of information between the ED and the ward. Admissions also should not be clustered at times when staffing is less robust; for example, elective admissions frequently occur during the evening. Pre-hospital admission processes should be used to the greatest extent possible. Consideration should be given to immediate admitting orders by ED physicians. Finally, appointing an admissions coordinator may be helpful, who is familiar with inpatient procedures and admission protocols to increase efficiency and expedite the admission process.⁶¹

The use of an admission assessment tool (such as InterQual or MCAP), or an admission review committee, are critical to ensuring that beds are filled appropriately.

4. Improve capacity planning

Longer term capacity planning involves decreasing *avoidable* demand variability in admissions and can be done by coordinating the elective admission load with predicted emergency room demand, given that natural emergency variability is highly predictable. Typical hospital operating procedures involve scheduling elective admissions from Monday to Friday, then trying to add emergency admissions onto these without looking at the two in concert.⁶²

⁵⁹ Ibid

⁶⁰ Ibid

⁶¹ Shia FY. ED overcrowding in Taiwan: Facts and strategies. Am J of Emerg Med. 1999; 17: 198-202.

⁶² Innes G. Vertesi L. Causes and solutions for emergency department overcrowding: A systematic review. 2004 Oct 29. Unpublished.

5. Improve operational planning

Operational planning is an activity that seeks to use resources in the most efficient manner through scheduling and work flow in the hospital. The objective of operational planning is to equalize bed supply and demand on a day to day basis. Successful operational planning requires timely access to admission (elective and non-elective) and discharge data, and the ability to link admission and discharge data to interventions such as expediting discharges, improved admission processes or ED full capacity protocols.⁶³

6. Hospital policies for bed availability priorities and bed use

These could include 'bed alert' policies which signal to wards when the ED has reached a critical occupancy level, kick start additional processes that lead to expedited discharges and discharge processes, and/or notify the ED of existing or pending bed vacancies. They could also include policies that certain wards 'hold' empty beds for ED admissions. Finally, they could establish guidelines for the use of telemetry beds only for those patients who require active and continuous monitoring.

7. Clinical decision unit adjacent to the ED

A Clinical Decision Unit (CDU) adjacent to the ED can be used to assess and manage patients who require additional investigation and monitoring prior to a decision whether to admit or discharge from the ED. In this way, 'regular' ED beds can be vacated for additional patients.^{64, 65} When structured properly, CDUs have been shown to improve the functioning and throughput of an ED, and to decrease the admission rate to hospital. The feasibility of creating a CDU and the exact structure are dependent upon the ED volume, the patient population served, and the availability of ancillary resources such as diagnostic services. The main categories of patients properly admitted to a CDU are those requiring further diagnostic evaluation, short-term therapy or intensive psychosocial care.

The CDU should be physically distinct from the emergency department and, if feasible based upon volumes, consideration should be given to staffing the CDU separately from the emergency department but by ED staff. The CDU should have timely access to diagnostic (laboratory and radiology) services. An inpatient admission rate from the CDU above 20% has been raised as a signal that quality of care and cost benefits of a unit may dwindle.⁶⁶ Total time in the CDU should not exceed 24 hours.

⁶³ Proudlove NC. Can good bed management solve the overcrowding in accident and emergency departments? *Emerg Med J.* 2003; 20: 149-55.

⁶⁴ Ibid

⁶⁵ Shia FY. ED overcrowding in Taiwan: Facts and strategies. *Am J of Emerg Med.* 1999; 17: 198-202.

⁶⁶ Duic M. Bed Allocation, Special Units And Other Strategies For Managing Overflow And Wait Times. *Insight Information: 4th Annual Emergency Care Conference; 2005 June 20-21; Toronto ON.*

To be effective, CDUs should develop and utilize detailed protocols and care maps to help maintain optimal patient management, facilitate early diagnosis and treatment, and maximize efficiency of the unit.⁶⁷ Furthermore, a utilization review process, with a quality assurance program employing CDU-specific indicators such as percentage of ED volume admitted to the CDU, percentage of CDU patients admitted to hospital, time to admission and CDU length of stay, should be developed and implemented. Units have been established at various EDs across the province, including St. Joseph's Hospital (Toronto) and Royal Victoria Hospital (Barrie).

iii. Interfacility Transport of Non-Urgent Patients

Many patients who do not require urgent care still require transportation by qualified personnel capable of providing a level of medical care; for example, transfer of chronic disease patients from hospital to a long-term care home, transfer to another facility for diagnostic testing, or transfer to another acute care facility for care. Both the volume of non-urgent transportation needs and associated costs have increased considerably over the past few years (figure 3.6).

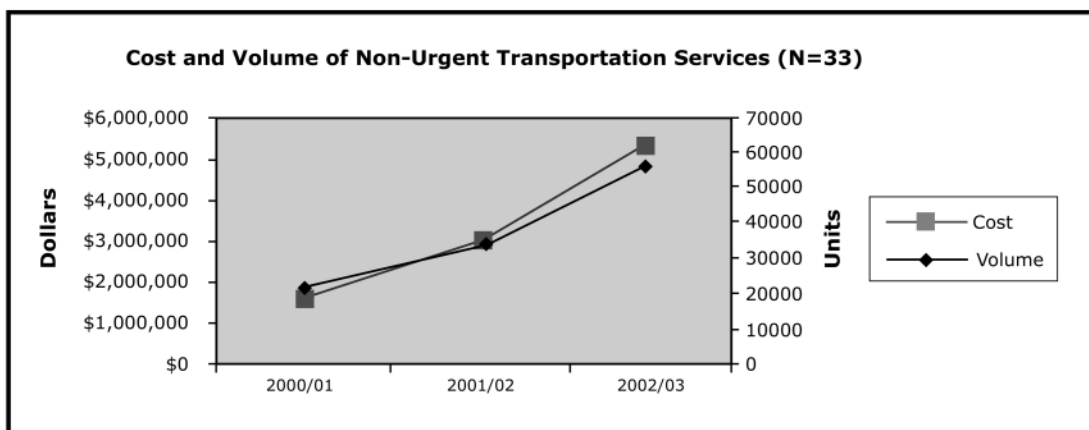


Figure 3.6

Source: Ontario Hospital Association, *Non-Emergency Ambulance Transfer Issues for Ontario's Hospitals*, September 2004

Currently, there are extensive delays in accessing Emergency Medical Services (EMS) transport for non-urgent patients. As a result, patients remain in the sending facility bed (whether ED or inpatient) for an excess period of time and prevent use of that bed by another patient. If a patient is being transferred to another facility, the bed at the receiving end sits unoccupied unnecessarily yet cannot be used for another patient, doubling the impact. Because of the bed occupancy impacts of these delays and because the *Ambulance Act* only regulates 911 calls to EMS and does not cover non-urgent calls, many hospitals use non-EMS unregulated patient transport systems and fund these entirely from their own budgets. However,

⁶⁷ D'Souza HC, Miesle DJ. Observation care units: An essential of emergency departments. *The Academy Journal*. 1998 Oct; 1(1).

these are costly and pose a level of risk to patients due to a lack of standardized quality control processes and regulation of providers.⁶⁸ As an example, London Health Sciences Centre will spend almost \$2.5 million this fiscal year for non-ambulance patient transport between its campus, St Joseph's Health Care and the London Regional Cancer program.

A province-wide interfacility transport system is required, that includes both current land and air ambulance and current non-ambulance patient transport providers, including regulation of the latter. This should be developed and implemented by the Ministry of Health and Long-Term Care, in collaboration with Local Health Integration Networks, municipalities and hospitals. A similar recommendation was also made in the Schwartz report.

b. Lack of Integration Between Community and Hospital

The hospital and community healthcare settings have generally functioned as two separate entities, resulting in poor communication, poor coordination and inefficiencies in the delivery of healthcare. Politicians and policy makers are waking to the reality that this cannot continue and the push toward integration of delivery of healthcare services has begun. This is most evident in the creation of the new LHINs.

The Expert Working Group has similarly determined that the lack of integration between community and the hospital has led to problems with access to care, as manifested by emergency department overcrowding. Having adequate resources in place in community settings to manage patients, particularly those with chronic diseases, helps to avoid unnecessary ED visits and hospital admissions and helps to keep discharged patients from returning to hospital. In this manner, inpatient resources can be used more efficiently and patients can receive appropriate quality care.

i. Hospital-Community Care Access Centre Partnership Agreements

Lack of communication and coordination between CCACs and hospitals often results in patient flow within the system being disrupted. Timely access to care is maximized through proper coordination in the delivery of services. The Expert Working Group recommends formal partnership agreements be established, by April 1, 2007, between hospitals and CCACs such that the roles and responsibilities of each are complementary and increase integration of care, and the expectations of each in patient management are clear. This process can be facilitated through the LHIN framework if appropriate. The relationship between

⁶⁸ Ontario Hospital Association. Non-emergency ambulance transfer issues for Ontario's hospitals. Toronto ON: 2004 Sept. Available from: [http://www.oha.com/client/OHA/OHA_LP4W_LND_WebStation.nsf/resources/Non-EmergencyAmbulanceTransferIssuesforOntarioHospitals/\\$file/Non-EmergencyAmbulanceTransferIssuesforOntariosHospitals.pdf](http://www.oha.com/client/OHA/OHA_LP4W_LND_WebStation.nsf/resources/Non-EmergencyAmbulanceTransferIssuesforOntarioHospitals/$file/Non-EmergencyAmbulanceTransferIssuesforOntariosHospitals.pdf) (accessed March 1, 2006)

hospitals and CCACs should also be formalized as part of each LHIN's Integrated Health Services Plan. The Expert Working Group also recommends that the partnership agreements provide for the integration of CCAC case managers into hospital patient management teams in both inpatient areas and the ED. This will facilitate timely discharge of patients into community settings with appropriate supports in place, ensure that patients are placed in the best setting to receive the level of care required, and ensure that patients, as well as their care team and families, are provided with the necessary information regarding their condition and the necessary treatment.

ii. Community Management of Chronic Disease

In Ontario, there is a lack of capacity to comprehensively manage common chronic diseases, such as chronic obstructive pulmonary disease, congestive heart failure and type 2 diabetes, to address mental health issues, and to provide adequate palliative care in the community setting. The result is that many of patients with these conditions or in need of palliative therapies end up being seen in the ED and/or admitted into hospital for medical care that *should* otherwise be provided in the community.

Comprehensive disease management and palliative care strategies are required that have the capacity to provide multi-disciplinary care outside of the hospital setting. These strategies should provide appropriate access to primary care services, specialist services, diagnostic resources and community care services.

A model of coordination of home (and long-term care home) palliative care delivery is the Hospice Palliative Care Network Project, a joint effort of the Temmy Latner Centre for Palliative Care, the Toronto CCAC, various Toronto area hospices and the Ministry. An objective of the project is to ensure that each palliative care patient is seen by a palliative care physician and has access to nursing, home care, hospice services and volunteer services 24 hours a day. Services provided include pain and symptom management as well as overall case management.⁶⁹

The hospital utilization and patient outcome improvements of these proposed strategies require validation however. The Expert Working Group therefore recommends that the Ministry, in consultation with appropriate professional associations, fund a series of pilots of these comprehensive management strategies, focusing on select chronic diseases, mental health and palliative care. The pilots should be carried out at a variety of geographic sites across the province. Where such pilots are already underway, these should be evaluated as soon as possible.

⁶⁹ See <http://www.tlcpc.org/hpcnet/index.php> (accessed March 14, 2006)

iii. Legislative Renewal

As it currently stands, the *Long Term Care Act, 1994* provides for a ceiling number of hours of service that CCACs can provide to clients in their homes. Further, current Ministry policy and funding does not support the provision of a broad scope and level of services to residents of long-term care homes. These limitations on the scope and duration of services that can be provided restricts the ability of CCACs and long-term care homes to provide the level of care necessary to increase hospital substitution and hospital avoidance, and to facilitate earlier discharges from hospital, thereby reducing the number of Alternate Level of Care (ALC) patients occupying hospital beds. In essence, the greater the level of service that can be provided for patients who can be safely managed in the community (ALC patients), the less pressure there will be for beds by these patients.

Legislative reform is required for the myriad of acts and regulations that currently govern long-term care in Ontario. In carrying out this reform, the Ministry should draft legislation that provides for an increased scope of services to be provided for residents of long-term care homes together with an appropriate funding mechanism for these services. In addition, the *Long-Term Care Act, 1994* should be revised to allow provision of increased CCAC services within client homes.

iv. Suggested Tools to Assist Integration Between Community and Hospital

1. Dedicated Community Care Access Centre Case Manager in the ED

The CCAC Case Manager should be an integral member of the patient team and should be consistently involved in the care of appropriate ED patients seven days a week where volumes warrant. The Case Manager plays a critical role in facilitating discharges into the community by finding the appropriate setting (home or an alternate level of care facility) and ensuring that community care providers are given all the necessary information about the patient in an accurate and timely manner. As a result, community services are utilized more effectively and appropriately while simultaneously increasing the number of referrals to CCACs. Case Managers also serve as a system navigator for patients and their care giving team in the community, providing them with the appropriate information regarding their care. Case Managers can now assist clients with their medical care to ensure they go to the ED only if an emergency exists that CCACs cannot assist with. The goal is avoidance of unnecessary ED visits, repeat ED visits and hospital admissions⁷⁰.

⁷⁰ Coleman S, Johnson N. Evaluation of Case Management in the London Hospital Emergency Departments. London ON; 2006 Jan 12.

Case Managers in the Emergency Department

The CCAC London-Middlesex has dedicated Case Managers in the ED at London Health Sciences Centre seven days a week from 12 noon until 8pm. This has increased the number of CCAC referrals from 80 clients per month to 200-240 clients per month. Hospital admission rates of CCAC referred patients have decreased significantly as compared to those patients not referred to the Case Manager (12.8% for non-CCAC referrals versus 3.8% for CCAC referrals at University Hospital and 14.3% for non-CCAC referrals versus 10.7% for CCAC referrals at Victoria Hospital). The ED 48 hour Return Rate has also dropped to 2.2% for CCAC referrals, as compared to 10.7% for all other patients.

2. Advanced Home Care Teams

A nurse practitioner (RN(EC)) is dedicated to working in the community setting on hospital avoidance, hospital substitution and early discharges as part of an Advanced Home Care Team, so that more acutely ill patients can be supported in the home instead of in the hospital. The RN(EC) is part of the joint hospital/ CCAC team focusing on community based assessment, with linkages to the hospital team and family physicians for support and communication when required. Through the Advanced Home Care Team model, the RN(EC), CCAC service provider, family physician and hospital team work together to deliver care in the patient's home. Advanced Home Care Teams can help many patients including: adults with infectious disease, dehydration, acute or chronic respiratory and cardiac problems, complex diabetes; adults who are ready for early discharge; and those who visit the ED frequently.

Advanced Home Care Teams

The CCAC London-Middlesex, the London Health Sciences Centre and the London Intercommunity Health Centre implemented the Advanced Home Care Team to support higher acuity clients in the home, thus avoiding hospital admission. A predecessor pilot research project, Integrating Physician Services in the Home, demonstrated that patients receiving care through Advanced Home Care Teams were one third less likely to have an ED visit than those patients not being treated through an Advanced Home Care Team. Patients were extremely satisfied with the care they received and it was less costly than being treated in a hospital setting.^{71, 72}

⁷¹ CCAC Community Service Update. Introducing the Advanced Home Care Team. London ON. 2005 Oct.

⁷² Stewart M, Ellett F, Golding S, Hoch J, Huras P, McSherry J et al. Integrating physician services in the home. London ON; 2002. Unpublished.

3. Enhanced ability to assess and manage patients in long-term care home settings

Nursing staff working in long-term care homes (formerly long-term care facilities and nursing homes) frequently do not have the required expertise or adequate resources to provide a range of common medical procedures, such as administering intravenous and subcutaneous fluids, suctioning, and performing electrocardiograms.

Many patients are transferred to the ED from a long-term care home for diagnostic testing or simple medical procedures such as those noted above, under non-life threatening circumstances. Although low acuity patients are not a primary cause of emergency department overcrowding, long-term care home residents frequently are not ambulatory and therefore require both transfer by ambulance or alternate, and a bed once in the ED. The average elapsed time long-term care home residents spend in the ED, occupying a bed, was noted to range from 6 to 9 ½ hours in one Toronto survey.⁷³

4. Agreements/protocols to move chronically ventilated or other high need medically stable patients to alternate level of care settings

Many medically stable patients require resource intensive care that could be provided in non-hospital settings. Staff can be appropriately trained to manage these patients, with necessary links to diagnostic testing and medical support.

Expanded Chronic Assisted Ventilatory Care

West Park Healthcare Centre, a specialized rehabilitation, complex continuing care and long-term care facility in Toronto, operates a 22 bed Chronic Assisted Ventilatory Care Service, which accepts patients who require ongoing mechanical ventilatory assistance. These patients would normally reside in critical care units in area hospitals.

⁷³ Ministry of Health and Long-Term Care, Toronto Regional Office. Resident Transfers from LTCH to Hospital Emergency Departments; 2006 Feb.

c. Standards for Emergency Departments

Most Ontario EDs are well run and have dedicated staff. However, there are currently no enforceable minimum performance standards for EDs in this province; therefore, there is no way for an individual ED to ensure it is performing well and no benchmark against which to assess improvement. The Expert Working Group therefore recommends that the Ministry of Health and Long-Term Care, in association with the Ontario Hospital Association, Ontario Medical Association and other professional groups, immediately develop standards for emergency departments. These standards should incorporate best practices, and include parameters such as maximum ED bed occupancy rates and staffing ratios. They should also be applicable to every classification of ED in the province (small, community and teaching hospitals).

The Expert Working Group also believes that conformity with these standards should be incorporated into the hospital accreditation process. Therefore, it recommends that, once the standards have been developed and supported, the Ministry and the Ontario Hospital Association work with the Canadian Council on Health Services Accreditation (CCHSA) to expedite this.

d. Suggested Tools to Enhance Emergency Department Processes

1. Improved access to diagnostic services, results and reports

Interventions that have been shown to result in a reduced ED LOS include:

- ◆ Automated paging to communicate radiological findings to treating physicians
- ◆ Increase access to advanced imaging during off hours
- ◆ Satellite lab and radiology services within the ED⁷⁴
- ◆ Point of care testing, for those patients destined to be discharged⁷⁵

2. Improved physical design elements

Separate assessment areas within the ED for pediatrics, mental health and ambulatory care patients have been shown to improve efficiency.⁷⁶ In addition, adequate single room and negative pressure room capability in the ED helps ensure that patients requiring isolation due to a suspected or known communicable disease do not disrupt the flow of other patients in the ED.

⁷⁴ Innes G. Improving flow and efficiency in the emergency department. 2005 Sept. Unpublished.

⁷⁵ Murray, RP, Leroux M, Sabga E, Palatnick W, Ludwig L. Effect of point of care testing on length of stay in an adult emergency department. J Emerg Med. 1999; 17(5): 811-4.

⁷⁶ Duic M. Bed Allocation, Special Units And Other Strategies For Managing Overflow And Wait Times. Insight Information: 4th Annual Emergency Care Conference; 2005 June 20-21; Toronto ON.

3. Improved use of medical directives

Use of medical directives can improve patient flow through the ED, by ensuring early institution of diagnosis and treatment (see Delegation of Controlled Acts below).

4. Improved time to specialist consultation

Access to specialists in a timely manner is problematic in community based EDs that may not have a specialist on site in areas such as orthopedics, surgery, pediatrics or psychiatry. In these circumstances, patients may need to be transferred to another site, which requires improved interfacility transport.⁷⁷

In the United Kingdom, specialists are freed from other duties when assessing patients in the emergency department and senior physicians see patients before junior staff.⁷⁸ Direct admits from the ED to the ward allows for specialist consultation to occur on the ward rather than in the ED.

Improved Time to Specialist Consultation

The Brighton and Sussex University Hospitals NHS Trust took action to decrease the delay to specialist consultation by identifying which patients were waiting for a specialist opinion and exactly what day and time of the week this was occurring. Once this was identified, the specific specialties of concern were targeted and an attempt was made to increase the availability of their services. This Trust has decreased the number of patients waiting more than four hours in the ED for specialist services from 15 patients a day to four. This is a reduction of 73%.⁷⁹

5. 'See and treat' protocols⁸⁰

This is an innovative concept currently being used in the United Kingdom to assess and treat minor, non urgent, complaints by patients as soon as they arrive to the ED. By using this protocol, a patient will be seen, treated and discharged by the physician or nurse that he/she sees first. This is an opportunity to expand the role of nurses. Although minor injured patients (CTAS IV and V) are not the primary cause of emergency department overcrowding, it is important to acknowledge the human resource time used to

⁷⁷ Estey A, Ness K, Saunders LD, Alibhai A, Bear RA. Understanding the causes of overcrowding in emergency departments in the Capital Health Region in Alberta: A focus group study. *Can J Emerg Med.* 2003; 5(2): 87-94

⁷⁸ Department of Health. *Transforming Emergency Care in England.* London UK; 2004 Oct. Available from <http://www.dh.gov.uk/assetRoot/04/09/17/81/04091781.pdf> (accessed February 10, 2006)

⁷⁹ Ibid

⁸⁰ Department of Health. *Improving emergency care in England.* London UK; 2005 Mar. Available from: <http://www.publications.parliament.uk/pa/cm200405/cmselect/cmpublic/445/44502.htm> (Accessed March 15, 2006)

treat these patients. With 'see and treat' protocols in place ED staff time and effort are used effectively to ensure that patients are treated in both a timely manner with high quality of care. In one study, after the protocols were implemented, patients who were assessed within one hour increased from 63% to 90% and patients discharged within one hour also increased from 16% to 41%.⁸¹

In looking at the potential use of 'see and treat' protocol, it is essential to address associated professional regulatory college and funding issues.

e. Delegation of Controlled Acts

Delegation of controlled acts through the use of medical directives within the emergency department can improve the delivery of care in a timely fashion, by allowing care to be initiated during periods when a physician is not immediately available and thereby expediting treatment. For these reasons, the Expert Working Group feels that the use of medical directives, for such things as ordering of diagnostic tests, should be maximized. Delegation should only occur for interventions or treatments for which there is a defined standard of care. Properly used, directives can improve ED patient flow and ensure early institution of diagnostic testing and treatment. To render the use of medical directives efficient and safe, all regulated health professions' colleges should work together to develop a unified approach to delegation of controlled acts that facilitates the effective, efficient and safe use of medical directives and the Expert Working Group recommends that this be developed. In particular, the Expert Working Group recommends that the College of Physicians and Surgeons of Ontario revise its policy on delegation of controlled acts.

⁸¹ Rogers T, Ross N, Spooner D. Evaluation of a 'See and Treat' pilot study introduced to an emergency department. *Accid Emerg Nurs.* 2004; 12: 24-7.

Implementation of the Recommendations in this Report

Collaborative and cooperative action is required to effect the necessary change recommended in this report. To that end, each Local Health Integration Network should establish a forum to encourage hospitals, the Community Care Access Centre, Emergency Medical Services, long-term care, community service providers and health care providers to work cooperatively to improve access to emergency care within the LHIN, including implementation of the recommendations contained in this report. In addition, each hospital should establish a forum, such as a working group, whereby front line emergency department physicians and staff, physicians who manage inpatients admitted from the emergency department and senior administration can actively work together toward implementation of the recommendations. The Ministry of Health and Long-Term Care should support the use of coaching teams to assist hospitals in implementing these recommendations.

The Physician Hospital Care Committee should identify targeted interventions for early implementation. No later than twelve months after release of this report, the Physician Hospital Care Committee and the Physician Services Committee should review the progress on implementation of the recommendations made in this report.

This report should be sent to the fourteen Local Health Integration Networks (LHINs) so that it may be used in the development of Integrated Health Service Plans as appropriate. The LHINs should also be asked to identify critical issues in the report requiring immediate resolution at the LHIN level.

Improved access to emergency care and patient flow *can* be achieved through the shared commitment of government and healthcare providers. This report provides a series of linked recommendations that, *applied collectively*, will result in real change supported by evidence and accountability. This change can begin to occur immediately, based upon a clear and timely plan for implementation of these recommendations by government and stakeholders.

This report was prepared prior to the Royal Assent of Bill 36, Local Health System Integration Act, 2006 (the Act) and may therefore contain terminology that is inconsistent with the Act as enacted.



The Canadian E.D. Triage and Acuity Scale

Patients should have an
INITIAL TRIAGE ASSESSMENT WITHIN 10 MINUTES*
of arrival



TRIAL LEVEL I - RESUSCITATION	USUAL PRESENTATION	SENTINEL DIAGNOSIS
Time to NURSE Assessment IMMEDIATE* Time to PHYSICIAN Assessment IMMEDIATE*	Code / Arrest Major Trauma Shock States Near Death Asthma Severe Respiratory Distress Altered Mental State (unconscious, delirious) Seizures	Traumatic Shock Pneumothorax - Traumatic / Tension Facial Burns with Airway Compromise Severe Burns > 30% TBS Overdose with Hypotension / Unconscious AAA AMI with Complications / CHF / Low BP Status Asthmaticus Head Injury - Major / Unconscious Status Epilepticus
Time to NURSE Assessment IMMEDIATE* Time to PHYSICIAN Assessment 15 MINUTES*	Head Injury (Risk Features ± Altered Mental State) Severe Trauma Altered Mental State (lethargic, drowsy, agitated) Chemical Exposure - Eyes Allergic Reaction (Severe) Chest Pain • Visceral, Non-Traumatic ± Associated Symptoms Overdose (conscious), Drug Withdrawal ABD Pain (Age >50) with Visceral Symptoms Back Pain (Non Trauma, Not MSK) GI Bleed with Abnormal Vital Signs CVA with Major Deficit Asthma Severe (PEFR <40%) Moderate / Severe Dyspnea / Difficulty Breathing Vaginal Bleeding • Acute, Pain scale >5 ± Abnormal Vital Signs Vomiting and/or diarrhea (with suspicion of dehydration) Signs of serious infection (purpuric rash, toxic) Chemotherapy or immunocompromised Fever (age ≤ 3 months) Temp ≥ 38.0 (rectal) Acute Psychotic Episode / Extreme Agitation Diabetes: Hypoglycemia, Hyperglycemia Headache (Pain Scale 8 - 10/10) Pain Scale 8-10 (CVA, Back, Eye) Sexual Assault Neonate (≤ 7 days old)	Head Injury Trauma, Multiple Sites, Multiple Rib Fracture, Neck Injury / Spinal Cord Alkaline / Caustic Occular Burns Anaphylaxis AMI, Unstable Angina, CHF, Chest Pain NOS, Gastroesophageal Reflux Unspecified Drug / Medicinal Overdose, "d.t.'s" AAA, Appendicitis, Cholecystitis Gastrointestinal Bleed, Hypotension CVA Severe Asthma COPD, Croup Spontaneous Abortion Ectopic Pregnancy / Rupture Epiglottitis, Meningitis, Sepsis Acute Psychotic Episode / Agitation Hypoglycemia, Diabetic Ketoacidosis, Hyperglycemia Migraine Renal Colic, LBP / Strain (Disc), Keratitis, Iritis
Time to NURSE Assessment 30 MINUTES* Time to PHYSICIAN Assessment 30 MINUTES*	Head Injury, Alert, Vomiting Moderate Trauma Abuse / Neglect / Assault Vomiting and/or diarrhea (≤ 2 years) Dialysis problems Signs of Infection Mild / Moderate Asthma (PEFR > 40%) Mild / Moderate Dyspnea Chest Pain • No Visceral Symptoms (Sharp/MSK) • No Previous Heart Disease GI Bleed with Normal Vital Signs Vaginal Bleeding Acute, Normal Vital Signs Seizure, Alert on Arrival Acute Psychosis ± Suicidal Ideation Pain Scale 8 - 10 / 10 with minor injuries Pain Scale 4 - 7 / 10 (Headache, CVA, Back)	Head Injury Anterior Dislocated Shoulder, Tibia / Fibula Fracture, Bimalleolar, Trimalleolar Ankle Fracture Pyelonephritis Asthma without Status / COPD Bronchiolitis / Croup, Pneumonia Chest Pain NOS (MSK, GI, Resp) GI Bleed, No complications Spontaneous Abortion Seizure Acute Psychosis ± Suicidal Ideation Migraine, Renal Colic, LBP / Strain (Disc)
Time to NURSE Assessment 60 MINUTES* Time to PHYSICIAN Assessment 60 MINUTES*	Head Injury, Alert, No Vomiting Minor Trauma ABD Pain (Acute) Earache Chest Pain, Minor Trauma or MSK, No Distress Vomiting and diarrhea (>2 years/no dehydration) Suicidal Ideation / Depression Allergic Reaction (Minor) Corneal Foreign Body Back Pain (Chronic) URI Symptoms Pain Scale 4 - 7 Headache (Non Migraine / Not Sudden)	Head Injury, Alert, No Vomiting Colles Fracture, Ankle Sprain Appendicitis, Cholecystitis Otitis Media / Otitis Externa Chest Pain NOS (MSK, GI, Resp), Gastroesophageal Reflux Suicidal Ideation / Depression Urticaria Corneal Foreign Body LBP / Strain URI
Time to NURSE Assessment 120 MINUTES* Time to PHYSICIAN Assessment 120 MINUTES*	Minor Trauma, Not Necessarily Acute Sore Throat, No Resp Symptoms Diarrhea alone (no dehydration) Vomiting alone normal mental status (no dehydration) Menses Minor Symptoms ABD Pain (Chronic) Psychiatric complaints Pain Scale < 4	LBP / Strain URI Gastroenteritis Vomiting Disorders of Menstruation Dressing Changes Cast Changes Constipation Symptoms / Neurotic, Personality and Nonpsychotic Mental Disorders Unspecified Superficial Laceration(s)

* **TIMES TO ASSESSMENT** are operating objectives, not established standards of care. Facilities without onsite physician coverage may meet assessment objectives using delegated protocols and remote communication.

APPENDIX 2

Glossary

A&E:	Accident and Emergency Centre
ALC:	Alternate Level of Care
ALOS:	Acute Length of Stay
CCAC:	Community Care Access Centre
CCHSA:	Canadian Council on Health Services Accreditation
CDU:	Clinical Decision Unit
CIHI:	Canadian Institute for Health Information
CMG:	Case Mix Group
CPOE:	Computerized Physician Order Entry
CTAS:	Canadian Emergency Department Triage and Acuity Scale
DAD:	Discharge Abstract Database
ED:	Emergency Department
ED LOS:	Emergency Department Length of Stay
ED TTA:	Emergency Department Time to Admission
EMS:	Emergency Medical Services
GRH:	Grand River Hospital
HAA:	Hospital Accountability Agreement
ICES:	Institute for Clinical Evaluative Sciences
IHI:	Institute for Healthcare Improvement
KGH:	Kelowna General Hospital
LHIN:	Local Health Integration Network
LOS:	Length of Stay
NACRS:	National Ambulatory Care Reporting System
OHA:	Ontario Hospital Association
OMA:	Ontario Medical Association
PACS:	Picture Archiving and Communication System
PHCC:	Physician Hospital Care Committee
PSC:	Physician Services Committee
RN(EC):	Registered Nurse, Extended Class (Nurse Practitioner)
TSH:	The Scarborough Hospital

APPENDIX 3

Members of the Emergency Department Overcrowding Expert Working Group

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- ◆ **Dr. Steven Harrison**, Director Health Policy, Ontario Medical Association
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