

EMERGENCY DEPARTMENT OVERCROWDING IN CANADA: WHAT ARE THE ISSUES AND WHAT CAN BE DONE?

RESEARCH HIGHLIGHTS - MAY 2006

This document highlights key findings from a four-part CADTH health technology assessment series on Canadian emergency department (ED) overcrowding.

WHY LOOK AT ED OVERCROWDING?

ED overcrowding occurs when the demand for emergency services exceeds the ability to provide care within a reasonable time. It can impact patients and ED staff in various ways. It is a system-wide, multi-faceted issue with no simple solutions.

The factors behind ED overcrowding in Canada remain poorly understood. Scientific studies of overcrowding in Canadian hospital EDs are limited.

The CADTH series on ED overcrowding is the first national, comprehensive study of the issue. It is designed to help Canadian policy makers, hospital and ED administrators, and health care researchers better understand the nature of ED overcrowding and what they can do about it.

KEY FINDINGS

Review of scientific evidence

- Fast-track systems can reduce overcrowding, but their resource and space implications must be considered.
- Ambulance diversion strategies, short-stay units, staffing changes and system-wide interventions

to reduce overcrowding should be encouraged and monitored, according to limited evidence.

- Triage patients is of unproven benefit in reducing overcrowding.
- No evidence of effectiveness could be identified for some broadly adopted interventions in Canada.

CADTH ED overcrowding reports

1. Measuring overcrowding in EDs: *A national survey and assessment of measures of overcrowding and their importance to ED providers, administrators and researchers across Canada*

2. Data collection on patients in EDs: *A national survey of electronic data collection methods in hospital EDs*

3. Frequency, determinants, and impact of overcrowding in EDs: *A national survey of ED directors to assess the frequency, determinants, and impact of overcrowding in hospital EDs*

4. Interventions to reduce ED overcrowding: *An assessment of interventions to reduce overcrowding in hospital EDs*



ED director survey results

- Overcrowding is perceived as a frequent and significant problem across Canada.
- The lack of available beds for admitted patients is thought to be a major or serious cause of ED overcrowding.
- Overcrowding is perceived to affect patient outcomes, as well as impact staff stress levels, recruitment and retention.

While many of the findings are relevant to all types of decision makers, what follows are implications highlighted by key audience.

FOR POLICY MAKERS

Adopting a common definition

- Adopting a common definition of ED overcrowding in Canada will assist all levels of the health care system in appropriately identifying and tracking the issue.
- The majority of ED directors (85%) surveyed agreed overcrowding can be defined as “a situation where the demand for emergency services exceeds the ability to provide care in a reasonable amount of time.”

Top five measures of ED overcrowding according to ED expert consensus group

1. Percentage of ED occupied by in-patients
2. Total ED patients
3. Total time in ED
4. Percentage of time when ED is at or above its capacity
5. Overall bed occupancy

Source: CADTH consensus survey with 38 Canadian ED experts

Reviewing which measures to track

- A consistent set of measures would help in identifying, tracking and reducing ED overcrowding. Measures perceived to be important to those delivering ED services are infrequently collected.

Supporting ED data collection and benchmarking

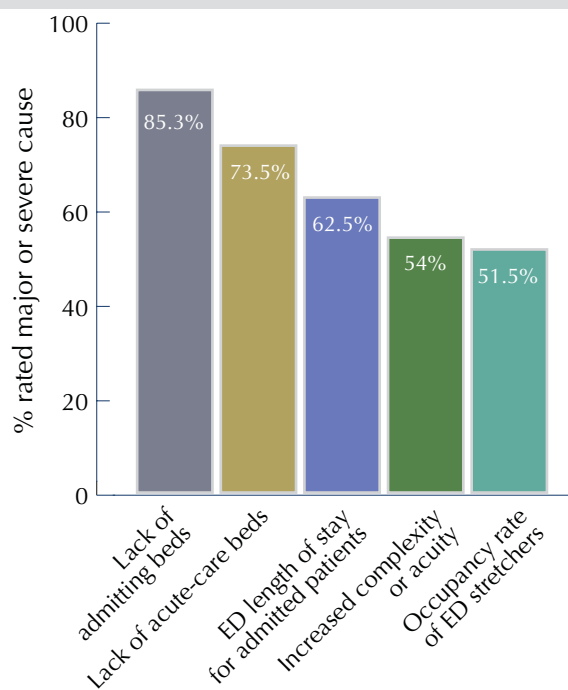
- Electronic collection of relevant data to measure and address overcrowding should be considered.
- Contributions to the Canadian Institute for Health Information (CIHI) national ED data system would be valuable for policy makers.

Most ED directors perceived ED overcrowding to be a problem

- Most ED directors (62%) surveyed perceived ED overcrowding to be a major or severe problem in 2004-2005.
- More than half of ED directors thought ED overcrowding impacted the quality and accessibility of emergency care. Most perceived that it increases stress levels and impacts staff recruitment and retention.
- The survey results indicated that major or severe overcrowding was much more likely to occur in EDs with >50,000 visits per year, communities with a population of at least 150,000, university-affiliated hospitals, trauma centres, and EDs with 30 or more treatment spaces.
- The majority of ED directors (85%) thought the lack of available beds for admitted patients was a major or serious cause of ED overcrowding.

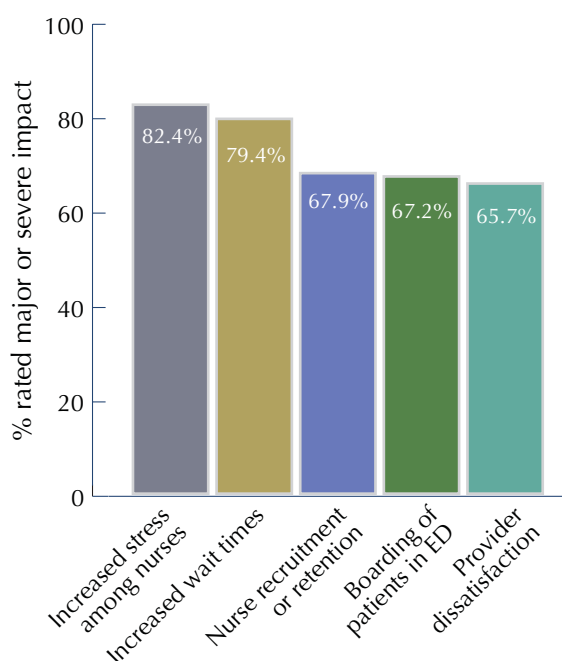


Top five causes of ED overcrowding according to ED directors



Source: CADTH survey of 243 Canadian ED directors with 158 respondents

Top five impacts of ED overcrowding according to ED directors



Source: CADTH survey of 243 Canadian ED directors with 158 respondents

FOR HOSPITAL ADMINISTRATORS, ED DIRECTORS

Canadian ED directors reported using interventions that included:

- triage-scoring systems (99%)
- fast-track systems (62%)
- ambulance diversion policies (42%)
- computerized patient-tracking systems (37%).

Revisiting ED policies

- Policies intended to control overcrowding in the ED may need to be revisited. More than half of ED directors surveyed reported that their hospitals had ED overcrowding policies, but 67% thought they had little or no effect.

Considering the evidence

- The following evidence can be considered when reviewing ED overcrowding interventions.

Good evidence

- Fast tracking those with minor injury or illness can reduce overcrowding.

Limited evidence

- Ambulance diversion strategies, short-stay units, staffing changes and system-wide interventions should be encouraged and monitored.
- Triageing patients is of unproven benefit in reducing overcrowding.

No evidence

- No evidence of effectiveness could be identified for some broadly adopted interventions in Canada, such as float nurse pools, senior ED physician flow shifts, home or community care workers assigned on-site to ED, over-census on wards, establishment of orphan clinics, “coloured” codes to decongest ED and “overload” units for in-patients.



ED overcrowding interventions checklist

Intervention	Systematic Review	ED Survey	Evidence
Fast track	√	√	++
Triage	√	√	inconclusive
Diversion strategies	√	√	+
Short-stay units	√	√	+
Staffing changes	√	√	+
Physician order entry	√	X	inconclusive
Specific processes: electronic tracking board, re-engineering of ED radiology services, admission system based on telephone consultation between ED physicians and in-house hospital staff, point-of-care testing, dedicated stat laboratory, implementing a satellite laboratory and research nurse in the ED for point-of-care testing, alternative care destination program bedside registration.	√	X	+
Multi-faceted interventions: increased emergency physician coverage; designation of physician coordinators; new hospital policies regarding laboratory, consultation, and admission procedures.	√	√	+
Interventions used by ED directors for which there is no evidence: float nurse pool, senior ED MD flow shift, home care and community care workers assigned on site to ED, over-census on wards ("hallway" patients), establishment of orphan clinics, "coloured" codes to decongest ED, emergency in-patient (EIP) units.	X	√	N/A

√=reported in scientific literature; X=not reported in scientific literature; ++=scientific evidence from RCTs supporting intervention; +=scientific evidence from non-randomized studies supporting intervention; N/A=not available.

FOR HEALTH CARE RESEARCHERS

High quality research is needed that:

- examines the effectiveness of interventions to reduce ED overcrowding, and how they impact quality of care and patient outcomes
- looks at cost effectiveness of interventions
- examines activity in EDs, appropriate measures of flow and capacity pressures
- adopts good study design, a common set of outcome measures, and reporting on setting characteristics.

PROJECT AND REFERENCES

CADTH initiated this health technology assessment (HTA) in 2004 after the issue of ED overcrowding was determined to be a high priority by federal, provincial and territorial ministry representatives. The project was contracted to the University of Alberta/Capital Health Evidence-based Practice Center (EPC) (www.epc.ualberta.ca), led by Dr. Brian Rowe, Ken Bond

(Project Manager) and Maria Ospina (Project Research Officer). Dr. Rowe is co-director of the EPC, a Professor and Canada Research Chair in the Department of Emergency Medicine at the University of Alberta.

The project team collaborated with ED experts across Canada. Detailed results and methodologies are available in the full reports and overview.

CADTH's ED overcrowding series, including four full-length Technology Reports, Technology Overview and this Research Highlights tool are available at www.cadth.ca.

ABOUT CADTH

The Canadian Agency for Drugs and Technologies in Health is a national body that provides Canada's federal, provincial and territorial health care decision makers with credible, impartial advice and evidence-based information about the effectiveness and efficiency of drugs and other health technologies.

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