



Hospital Admissions via the Emergency Department: Implications for Planning and Patient Flow

Heather Dawson, Jaya Weerasooriya and Greg Webster

Over one million Canadians are admitted to hospitals each year via the emergency department (ED). These patients tend to be older, have more severe and multiple conditions or diseases and stay in hospital longer than patients admitted via other means. In 2005–2006, hospital admissions through EDs accounted for approximately 60% of acute care hospitalizations in Canada (excluding hospitalizations in Quebec and those among women admitted for childbirth and infants born in hospital). These patients accounted for 65% of in-patient days, 11% of which were alternate level of care (ALC) days. Given the importance of this patient population, Canadian Institute for Health Information (CIHI)'s recent study *Understanding Emergency Department Wait Times: Access to Inpatient Beds and Patient Flow* (CIHI 2007) explores the length

of time patients spend in the ED while waiting for an in-patient bed and some of the characteristics of patients admitted via the ED in comparison with patients admitted via other means. This article highlights some of the findings of this report by providing an overview of patients admitted via the ED and their contribution to ALC days.

Data Sources and Methods

Data for this analysis were obtained from CIHI's Discharge Abstract Database (DAD) for fiscal year 2005–2006 (i.e., April 1, 2005–March 31, 2006). The Quebec data submitted to CIHI do not contain the information required to identify patients admitted via the ED and ALC patients in a comparable manner and were therefore excluded. Hospitalizations among women

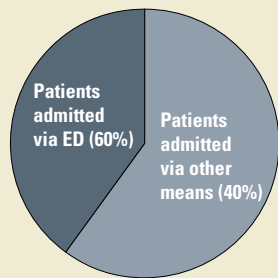
admitted for childbirth and infants born in hospital are also excluded in order to limit the analysis primarily to hospitalizations due to a health problem.

Comparisons were made between hospitalizations via the ED and those admitted via other means. Hospitalizations via the ED included patients admitted to the hospital via that hospital's ED. Hospitalizations via other means include elective or planned admissions, direct admissions from a doctor's office or clinic and transfers from another facility.

Acute Care Hospitalizations via the ED

The proportion of hospital admissions via the ED varied across Canada from 56% in Nova Scotia and Alberta to 77% in Nunavut. Factors influencing hospitalization rates in general, such as overall population health (Public Health Agency of Canada 2007), availability of or access to appropriate primary care (Cloutier-Fisher et al. 2006), ED practice patterns and management (Lougheed et al. 2006), in-patient bed management and capacity and the availability of non-acute care resources such as long-term care beds (Physician Hospital Care Committee 2006), may account for some of the variation in ED hospitalization rates across the country (Figure 1).

Figure 1. Acute care hospitalizations in Canada (excluding Quebec) by mode of admission, 2005–2006



The majority (60%) of patients admitted to hospital in 2005–2006 were admitted via the emergency department (ED). These patients accounted for 65% or 9,216,220 in-patient days in Canada (excluding Quebec).

Total hospitalizations = 1,904,486; patients admitted via ED = 1,135,888; patients admitted via other means = 768,598. All rates exclude hospitalizations in Quebec and hospitalizations among women admitted for childbirth and infants born in hospital.

Source: Discharge Abstract Database, CIHI, 2005–2006.

Characteristics of Patients Admitted via the ED and Other Means

Patients are admitted to acute care for a variety of reasons. To understand characteristics of patients admitted via the ED, patients were categorized into one of five patient service groups according to their main acute care service or health-care provider while in the hospital. These groups are medical, surgical, neonatal and pediatric, obstetric and mental health patient service groups.

In 2005–2006, the majority (68%) of patients admitted via the ED were in the medical patient group (Figure 2). These medical patients accounted for 6.6 million in-patient days. In contrast, 19% of patients admitted via the ED were in the surgical group, and these patients accounted for 1.5 million in-patient days.

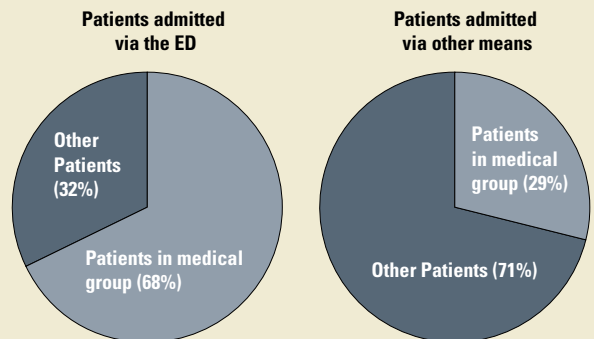
The median length of stay for all patients admitted via the ED (four days) was slightly longer than the median length of stay for patients admitted via other means (three days). The longer median length of stay observed among patients admitted via the ED may have resulted from there being a larger proportion of medical group patients admitted via the ED.

ALC Patients by Mode of Admission

“ALC patients” are those patients who have been designated by their physician as no longer requiring acute care but who are occupying an in-patient acute care bed. The majority of ALC patients are waiting for placement in another type of care facility (or bed) such as complex continuing care, long-term care or rehabilitation. While this is felt to be a conservative estimate due to potential under-reporting of ALC patients, in 2005–2006 in Canada (excluding Quebec) 4% or 74,093 patients were reported to be ALC (Figure 3).

The 54,992 ALC patients who were admitted via the ED accounted for 73% or just over one million of all ALC days in 2005–2006. Eighty-five percent of these patients (46,644 patients) were in the medical patient group.

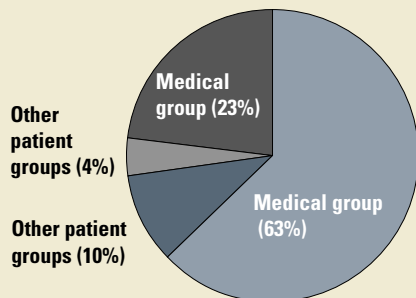
Figure 2. Proportion of acute care in-patients in Canada (excluding Quebec) by patient service group and mode of admission, 2005–2006



Total hospitalizations = 1,904,486; patients admitted via the emergency department (ED) = 1,135,888; patients admitted via other means = 768,598. Patients in the medical group admitted via the ED = 777,085; patients in the medical group admitted via other means = 226,602. All rates exclude hospitalizations in Quebec and hospitalizations among women admitted for childbirth and infants born in hospital.

Source: Discharge Abstract Database, CIHI, 2005–2006.

Figure 3. Proportion of alternative level of care (ALC) bed days in Canada (excluding Quebec) by mode of admission, 2005–2006



The majority of ALC patients (73%) were originally admitted to hospital via the emergency department (ED). Most of these patients are in the medical patient group. ALC patients admitted via the ED accounted for 1,001,903 of ALC bed days in Canada (excluding Quebec) in 2005–2006.

Excluded are hospitalizations in Quebec and hospitalizations among women admitted for childbirth and infants born in hospital. Total ALC bed days = 1,372,636; ALC bed days for patients in the medical group admitted via the ED = 869,959; ALC bed days for patients in the medical group admitted via other means = 309,990.

Source: Discharge Abstract Database, CIHI, 2005–2006.

Summary

In summary, there are important differences among patients admitted via the ED versus those admitted via other means in terms of both utilization and patient characteristics. When compared with patients admitted via other means, patients admitted via the ED are more likely to fall into the medical patient group, to be older and to have more complex and more diseases or health conditions. Medical patients admitted via the ED are more likely to become ALC patients than are other types of patients. As hospitals, health regions and policy makers focus on improving patient flow through Canada's EDs, it is important to consider the volume and characteristics of the patient population admitted via the ED. **HQ**

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About the Authors

Heather Dawson, MHA, is the manager of Health Services Research at CIHI in Toronto. In this role she oversees the development and production of health services research initiatives. She has previously worked in leadership roles in hospitals and health planning and advocacy organizations in Ontario.

Jaya Weerasooriya, BSc, with a postgraduate diploma in statistics, is a senior analyst within the Health Services Research team at CIHI in Toronto. He has extensive work experience in non-governmental organizations and advocacy organizations in the health services sector.

Greg Webster, MSc, is the director of Research and Indicator Development at CIHI in Toronto. In this role he is responsible for providing vision, leadership and direction for CIHI's health services research and indicator initiatives.

“Learning without thought is labour lost.
Thought without learning is intellectual death.”

– Confucius

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