Falls among Top Reasons for Transfers from Continuing Care to Acute Care Hospitals in Canada

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Abstract

There are limited data on the quality and safety of care for residents in continuing care settings. An analysis of the main reasons why residents, 75 and older, of continuing care facilities are transferred to acute care demonstrates that two of the top three reasons for transfers result from potentially avoidable events.

In 2004, Baker et al., in their study of adverse events related to hospital care in Canada, found that 7.5% of those hospitalized in 2000–2001 experienced an adverse event. Since the publication of this study, patient safety within different care settings has been a focus of interest and study. This includes a focus on the safety and quality of care being provided for residents of continuing care settings.

In 2006–2007, there were almost 200,000 Canadians living in homes for the aged, nursing homes, lodges for senior citizens and rest homes in Canada (Statistics Canada 2008). Residents of continuing care facilities are older and more medically complex than ever before (Sharkey 2008; Wagner and Rust 2008). In this article, we concentrate on residents of continuing care settings, aged 75 and older, who were admitted to acute care. We explore patient characteristics and the reasons for admission to hospital for continuing care patients and compare these with factors for seniors admitted to hospital from home or other non–continuing care settings. We note that two of the top three reasons for hospitalizations among residents of continuing care facilities are results of potentially preventable events, and we conclude by highlighting strategies designed to monitor and assess those in continuing care who are at risk for hospitalization for these events.

Methods

Analyses were based on data for patients 75 years and older obtained from the Canadian Institute for Health Information (CIHI) Discharge Abstract Database for the period of April 1, 2003, to March 31, 2008. Patients were grouped and their characteristics compared based on place of residence upon admission to hospital: continuing care settings versus home or other non–continuing care setting. Continuing care settings included nursing homes, homes for the aged or chronic care facilities (or designated units/beds in the same or another hospital). Ontario's free-standing complex continuing care (CCC) settings or CCC beds in the same or another hospital were also included in this definition.

The most common reasons for hospitalization were determined by major clinical category based on the most responsible diagnosis or the reason that accounted for the majority of the

hospital stay. Within each major clinical category, patients were further grouped based on their most frequent clinical characteristics. The main reasons for admission and length of stay, including the number of days patients spent designated as alternative level of care (ALC), were compared for those admitted via transfer from a continuing care setting and those admitted from home or other care settings.

Results

In 2007–2008, 35% of acute care hospitalizations in Canada (excluding Quebec) were for persons 75 and older; of those, 10% were for patients transferred from continuing care settings. The top three reasons for these transfers were respiratory conditions (19.8%) such as pneumonia and chronic obstructive pulmonary disease (COPD); conditions related to the circulatory system (17.7%) such as heart failure; and traumatic injury (12.3%), primarily due to falls. The top three reasons for admissions from home or other settings to acute care differed when compared with those for admissions from continuing care settings. For example, trauma due to falls and other injuries was not among the top three reasons for admission for those admitted from home or other non–continuing care settings (Table 1).

Over a five-year period from 2003–2004 to 2007–2008, there was little change in the percentage of all transfers from continuing care settings attributed to these three reasons (Figure 1), despite increases in the overall number of patient transfers for these reasons (Figure 2).

While length of stay in 2007–2008 did not differ between those transferred from continuing care settings and those admitted from home or from other care settings for injuries due to falls, a larger percentage of patients admitted from home or other non–continuing care settings for fall-related injuries spent time as ALC patients than did those transferred from continuing care settings (25.4 versus 15.5%, respectively). In terms of bed-days, patients admitted from continuing care settings for injuries related to falls accounted close to 17,000 bed-days

Table 1. Comparison of reasons for admission*

Diagnosis or Condition	Admitted via Transfer from Continuing Care Setting	Admitted from Home or Other
Most common	**Respiratory (19.8%)**	**Circulatory (22.8%)**
	Three most frequent clinical characteristics:	**Three most frequent clinical characteristics:**
	Viral/unspecified pneumonia	Heart failure without cardiac catheter
	COPD	Arrhythmia without cardiac catheter
	Aspiration pneumonia	MI/shock/arrest without cardiac catheter
Second most common	**Circulatory (17.7%)**	**Digestive (12.7%)**
	Three most frequent clinical characteristics:	**Three most frequent clinical characteristics:**
	Heart failure without cardiac catheter	GI hemorrhage
	MI/shock/arrest without cardiac catheter	Symptom/sign of digestive system
	Arrhythmia without cardiac catheter	Non-severe enteritis
Third most common	**Traumatic injuries (12.3%)**	**Respiratory (12.5%)**
	Three most frequent clinical characteristics:	**Three most frequent clinical characteristics:**
	Fixation/repair hip/femur	COPD
	Hip replacement with trauma/complication of treatment	Viral/unspecified pneumonia
	Fracture of femur	Malignant neoplasm of respiratory system

COPD = chronic obstructive pulmonary disease; GI = gastrointestinal; MI = myocardial infarction.

*Based on hospitalizations (not individual patients) for those 75 years and older in Canada, excluding Quebec.

Source: Discharge Abstract Database, 2007–2008, Canadian Institute for Health Information.

spent as ALC patients, whereas those admitted from home or non–continuing care settings accounted for just over 86,000 bed-days spent as ALC patients (Table 2).

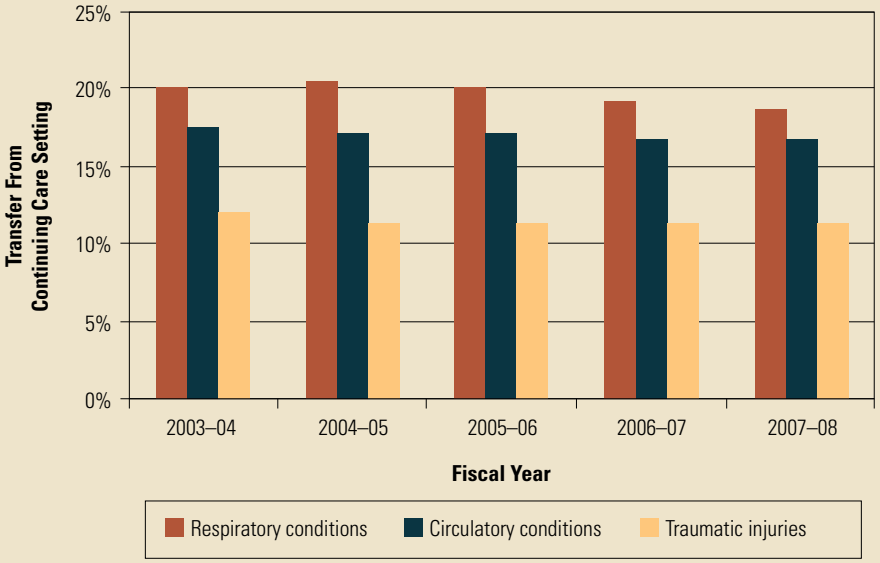
Again in 2007–2008, one in five patients transferred from continuing care facilities were admitted for respiratory conditions primarily related to pneumonia and COPD in comparison to 12.5% admitted from home or non–continuing care settings (Table 3). Lengths of stay for patients transferred from continuing care facilities and admitted for respiratory conditions also did not differ compared with those admitted from home or non–continuing care settings.

Discussion

Continuing care settings in Canada are designed to provide a secure place for individuals requiring 24-hour services such as healthcare, personal care, meals and other housekeeping needs (Health Canada 2004). However, when acute care needs arise, residents need to be transferred to an acute care hospital for assessment and possible admission.

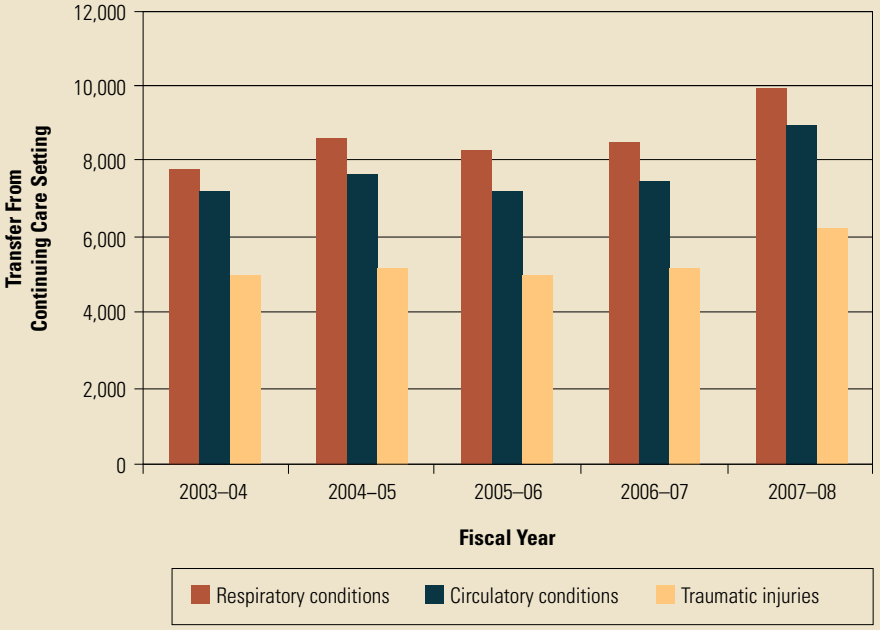
A recent study of the applicability of the concept of potentially avoidable hospitalizations among residents of long-term care facilities suggests that both respiratory conditions such as COPD and pneumonia and injuries due to falls could be considered potentially avoidable hospitalization events for these residents (Walker et al. 2009). In this study, falls and fractures represented 26% of all hospitalizations considered to be potentially avoidable, whereas COPD and pneumonia combined accounted for 30%. In a report by the Canadian Patient Safety Institute, falls were identified as one of the most frequently reported

Figure 1. Percentage of transfers due to respiratory and circulatory conditions and traumatic injuries*



*Based on hospitalizations (not individual patients) of patients 75 years and older in Canada, excluding Quebec.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Figure 2. Number of transfers due to respiratory and circulatory conditions and traumatic injuries*



*Based on hospitalizations (not individual patients) of patients 75 years and older in Canada, excluding Quebec.
Source: Discharge Abstract Database, Canadian Institute for Health Information.

Table 2. Hospitalizations for injuries due to falls*

	Admitted via Transfer from Continuing Care	Admitted from Home or Other
Total hospitalizations with TI	6,381 (12.3% of total)	26,544 (6.9% of total)
Hospitalizations due to falls	5,763 (90.3% of TI; 11.1% of total)	20,231 (76.2% of TI; 5.2% of total)
Median age (yr)	87	84
Percentage female patients	78.8	74.2
Percentage admitted via ED	95.4	94.5
Median acute LOS (d)	7	8
Number with ALC stays†	856 (15.5%)	4,915 (25.4%)
Median ALC LOS (d)†	10.5	9
Total ALC bed-days†	16,713	86,078‡

ALC = alternative level of care; ED = emergency department; LOS = length of stay; TI = traumatic injuries.

* Based on hospitalizations (not individual patients) of patients 75 years and older in Canada, excluding Quebec. Total hospitalizations were 51,730 admitted via transfer from continuing care and 385,762 admitted from home or other non–continuing care setting.

† Only among patients identified as ALC (excluding Manitoba).

‡ Excludes two patients who stayed more than a year in ALC.

Source: Discharge Abstract Database, 2007–2008, Canadian Institute for Health Information.

Table 3. Hospitalizations for respiratory conditions*

	Admitted via Transfer from Continuing Care Settings	Admitted from Home or Other
Hospitalizations for respiratory conditions	10,218 (19.8% of total)	48,032 (12.5% of total)
Percent admitted via ED	95.5	90.2
Median acute LOS (d)	6	6
Number with ALC stays†	697 (7.1%)	4,027 (8.9%)
Median ALC LOS (d)†	8	9

ALC = alternative level of care; ED = emergency department; LOS = length of stay.

* Based on hospitalizations (not individual patients) of patients 75 years and older in Canada, excluding Quebec. Total hospitalizations were 51,730 admitted via transfer from continuing care and 385,762 admitted from home or other non–continuing care setting.

† Only among patients identified as ALC (excluding Manitoba).

Source: Discharge Abstract Database, 2007–2008, Canadian Institute for Health Information.

adverse events in continuing care and a common reason for seniors' visits to the emergency department (Wagner and Rust 2008). In our analysis, we found that patients admitted from continuing care settings were twice as likely to be admitted due to falls compared with those admitted from home or another setting (11.1% versus 5.2%, respectively).

Knowing who is at risk for falls within continuing care settings may present the most relevant intervention strategy for those caring for residents. Recently, clinical assessment protocols (CAPs) have been developed and released by interRAI to help clinicians assess risk factors among patient populations in continuing care as well as those being provided care in the community (Canadian Institute for Health Information 2008). As falls and injuries related to falls represent a significant health concern, a CAP has been developed to specifically assess the risk for falls. CIHI is building new CAP reports related to a number of patient

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care issues for organizations submitting data to the Continuing Care Reporting System and the Home Care Reporting System. Tracking CAPs triggered over time at individual and organizational levels can inform quality improvement initiatives and shed light on the effectiveness of the care provided. HQ

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