

End-of-Life Hospital Care for Cancer Patients: An Update

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Abstract

Cancer is the leading cause of death in Canada, and the number of new cases is expected to increase as the population ages and grows. This study examined the use of hospital services in the last month of life by adult cancer patients who died in Canadian acute care hospitals in fiscal year 2012–2013. Almost 25,000 Canadian cancer patients – excluding those in Quebec – died in acute care hospitals, representing approximately 45% of the estimated cancer deaths in 2012–2013. The proportion of in-hospital deaths varied across jurisdictions. Twenty-three percent of these patients were admitted to acute care multiple times in their last 28 days of life, with a higher percentage for rural (29%) compared to urban (21%) patients. Relatively few patients used intensive care units or received inpatient chemotherapy in their last 14 days of life.

Cancer is the leading cause of death in Canada, and the number of new cases is expected to increase as the population ages and grows (Public Health Agency of Canada 2012). There were an estimated 75,500 cancer deaths in 2013 (Canadian Cancer Society's Advisory Committee on Cancer Statistics 2013). Available data show that a significant proportion of Canadian cancer patients die in acute care hospitals, which are primarily focused on short-term, curative care. A better understanding of the experiences of cancer patients at the end of their lives is important in improving planning for their care.

This article provides an update to the Canadian Institute for Health Information (CIHI)'s 2013 study *End-of-Life Hospital Care for Cancer Patients*. The original study examined the use

of hospital services in the last month of life by cancer patients who died in acute care hospitals, highlighting variation in use of services across jurisdictions. The 2013 study highlighted jurisdictional differences in care at the end of life (EoL) for cancer patients and contained detailed analysis and discussion of perspectives of EoL care in Canada (available free of charge at <<https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC2162&lang=en&media=0>>). Using the most current year of data, this article updates the main findings and conclusions made in the 2013 study.

Methods and Study Population

Acute care death abstracts for 2012–2013 were extracted from CIHI's Discharge Abstract Database. Among them, adult (age 20+) cancer patients were identified using ICD-10-CA codes for either a significant diagnosis of malignant neoplasm or a most responsible diagnosis of palliative care with a secondary diagnosis of malignant neoplasm.

The current study analyzed:

- characteristics of cancer patients who died in acute care setting;
- cancer-related deaths in acute care setting as a proportion of all cancer-related deaths;
- frequency of hospital admissions and visits to emergency departments (EDs) at EoL; and
- measures of potentially overly aggressive treatment (use of intensive care units and inpatient chemotherapy in the last 14 days of life).

Findings

The analysis found that 24,780 cancer patients – excluding those from Quebec – died in acute care hospitals in 2012–2013, representing approximately 45% of the estimated cancer deaths in that year. A detailed profile of these patients is presented in Table 1.

TABLE 1.
Profile of cancer patients who died in acute care hospitals

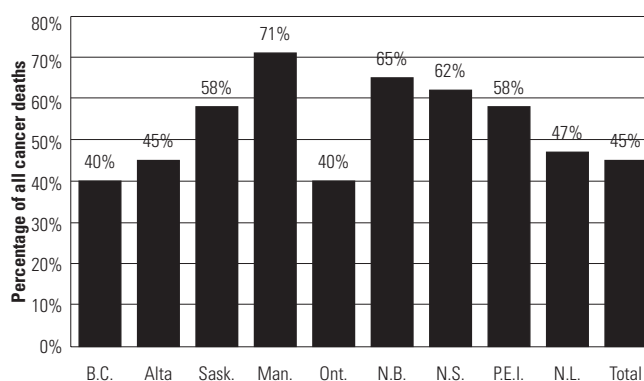
Description	Percentage of Patients
Gender	
Male	54
Female	46
Age	
20–44	3
45–64	26
65+	71
Most common cancer types	
Lung	23
Colorectal	9
Pancreatic	5
Leukaemia	4
Non-Hodgkin's lymphoma	4
Place of residence	
Urban	74
Rural	26
Arrival via ambulance	
	57
Admitted from	
Home or home with support	82
Another acute care	9
Residential care	4
Admission type	
Emergency department	69
Direct admission	28
Admitted to hospital type	
Teaching hospital	32
Large hospital	32
Medium or small hospital	36
Length of stay	
<1 week	37
1–4 weeks	45
>4 weeks	18

Notes: Includes all provinces and territories except Quebec. Not all categories are shown in all cases. As such, some percentages do not add to 100.

Source: Discharge Abstract Database, 2012–2013, Canadian Institute for Health Information.

The proportion of cancer patients who died in acute care hospitals varied across provinces. This may indicate differences in how care is organized and delivered, such as variations in availability of and access to community-based services and the location of palliative services (Figure 1). For example, in Manitoba due to the way palliative care units in non-acute care facilities are categorised, the number of cancer patients reported to have died in acute care facilities may include those who died in dedicated palliative care beds.

FIGURE 1.
Provincial variations in proportion of cancer patients who died in acute care hospitals as a percentage of total projected cancer deaths, 2012–2013



Note: Total includes all provinces and territories except Quebec. Includes only acute care facilities.

Overall cancer deaths based on projected deaths for 2013.

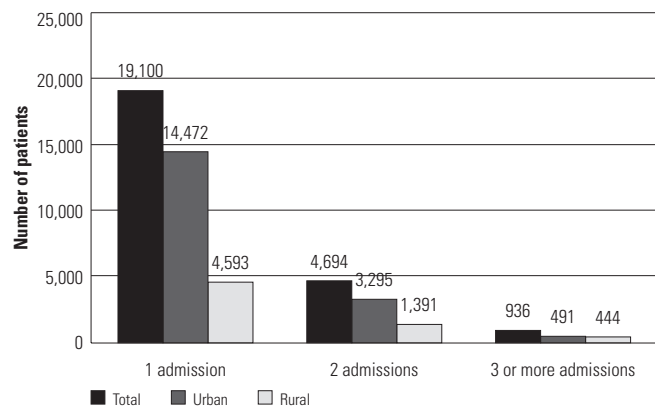
Sources: Discharge Abstract Database, 2012–2013, Canadian Institute for Health Information Canadian Cancer Society's Advisory Committee on Cancer Statistics 2013.

A total of 23% of the patients who died in acute care hospitals were admitted to acute care multiple times in their last 28 days of life, with a higher percentage for rural (29%) compared to urban (21%) patients. Frequent admissions at the EoL may indicate that primary care or community-based services are not meeting all of patients' EoL care needs, and may contribute to challenges with continuity of care (Figure 2).

The quality of EoL care for the study cohort was examined by looking at potentially overly aggressive treatment and underuse of key services. Relatively few patients used ICUs (11% were admitted to ICU, and 9% died there) or received inpatient chemotherapy (2%) in their last 14 days of life. Most patients (83%) had a documented palliative care diagnosis during their final admission; however, it is not known how many received specific inpatient palliative care services or may have had access to alternative palliative settings.

Data from CIHI's National Ambulatory Care Reporting System, which tracks ED use, was used to examine the frequency and duration of cancer patients' ED visits in 2011–2012 and 2012–2013. Of the 13,777 patients in the study's cohort from Alberta and Ontario (where ED data are available), 9,715 (71%) visited the ED in their last 28 days of life. While most had only

FIGURE 2.
Frequency of acute care admissions by cancer patients in last 28 days of life



Notes: Includes all provinces and territories except Quebec. Includes last admission, in which patients died. Total includes patients who could not be classified as rural or urban. Admission time frame was measured between discharge date of final admission and discharge date(s) from previous admission(s). Source: Discharge Abstract Database, 2011-2012 and 2012-2013, Canadian Institute for Health Information.

one ED visit in the last 28 days, 17% had two visits and 7% had three or more visits. As well, 16% of patients spent their last 28 days of life in hospital, and therefore did not visit the ED.

Time spent in the ED was also measured for those patients admitted through the ED on their final admission. Half of the patients spent more than 10 hours in the ED, and 10% spent more than 29.7 hours there.

Discussion and Conclusions

The current study found that almost half (45%) of Canadian cancer patients – excluding those in Quebec – died in acute care hospitals in 2012–2013, the same as in 2011–2012. While this is higher than in some countries, such as the United States and the Netherlands, it is lower than in others, including Wales and England (Cohen et al. 2010; The Dartmouth Atlas of Healthcare 2014).

The proportion of cancer patients who died in acute care hospitals varied from 40% in Ontario and British Columbia to 71% in Manitoba. This may be – at least in part – a reflection of differences in models of care. For example, Manitoba has designated palliative care units within acute care hospitals. Provincial variations in the proportion of in-hospital cancer deaths suggest that some patients could have received EoL care in non-acute settings, such as hospices or their homes with support services. Dying in these settings might also be more in line with patients’ own preferences (Wilson et al. 2013).

Challenges in care exist for some patients, resulting in multiple admissions in the last 28 days of life. Cancer patients from rural areas were more likely to have multiple hospital

admissions in their last four weeks of life than their urban counterparts. Also, almost three-quarters (71%) of patients from Alberta and Ontario visited EDs at least once in their last 28 days of life. The high number of patients affected indicates that there may be need for more, or more accessible, community-based EoL services.

The current study was focused on cancer patients, who make up almost one-third of all Canadian deaths (Statistics Canada 2014). The findings, however, highlight some issues related to EoL care that apply more broadly, such as access to community-based services. **HQ**

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