

# Where the Dying Live: A Systematic Review of Determinants of Place of End-of-Life Cancer Care

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Cancer is the second-leading cause of death in the United States and Canada. About 1.5 million Americans will be diagnosed with cancer in 2009 and, despite increased survivorship, more than 1,500 people will die every day (American Cancer Society, 2008). In Canada, men have a 45% risk of developing cancer during their lifetimes, and women have a 40% risk (National Cancer Institute of Canada [NCIC], 2008). An estimated 29% of Canadian men and 24% of Canadian women will die from the disease (NCIC). Most will receive end-of-life (EOL) care in an institution despite a preference for home palliation (Cantwell et al., 2000; Murray, O'Connor, Fiset, & Viola, 2003; Stajduhar & Davies, 2005; Steinhäuser et al., 2000). This paradox has not been well explained; therefore, this article will investigate the influencing factors that differentiate preferred and actual place of EOL care for patients with cancer.

Factors affecting place of EOL care are under reported, limiting the provision of comprehensive, holistic, palliative care (Gomes & Higginson, 2006; Higginson & Sen-Gupta, 2000; Last Acts Palliative Care Task Force, 2002; Romanov, 2000). Increasing awareness of the practical, social, and psychological considerations affecting place of EOL care for patients with cancer would help clinicians and healthcare leaders develop relevant, responsive, evidence-based interventions to better meet the needs of EOL patients and their families. At the healthcare systems level, an enhanced understanding of the factors linked to place of EOL care for patients with cancer could enhance policy and decisions regarding resource allocation.

Establishing what is known about the determinants of place of EOL care for patients with cancer is a starting point. A number of narrative reviews regarding place of EOL care have been published (Grande, Addington-Hall, & Todd, 1998; Tang, 2000; Thomas, 2005); however, information regarding the quality of the studies, scope of the reviews, and potential selection bias is limited and restricts the use and generalizability of the reviews. Because no systematic reviews exclusively focused on patients with cancer and because the shelf life for systematic reviews directly relevant to clinical practice is

**Purpose/Objectives:** To describe the determinants of place of end-of-life (EOL) care for patients with cancer.

**Data Sources:** A systematic literature review of primary research studies (1997–2007) was conducted. Studies that investigated place of EOL care or identified place of EOL care in relation to outcomes were examined, their critical quality was appraised, and references were mapped.

**Data Synthesis:** Of the 735 articles identified, 39 (representing 33 studies) met inclusion criteria. Two main research designs emerged: large-scale epidemiologic reports and smaller descriptive studies. Findings suggest that factors related to the disease, the individual, and the care and social environment influence place of EOL care for patients with cancer. Social support, healthcare inputs (from services and programs and healthcare provider contact), and patient preferences were the most important factors.

**Conclusions:** Most patients with terminal cancer prefer home palliation; however, most die in an institution. The reasons are complex, with various determinants influencing decisions regarding place of EOL care.

**Implications for Nursing:** Findings may highlight evidence-based interventions to assist patients and families facing decisions regarding place of EOL care. A clearer understanding of factors that influence place of EOL care for patients with cancer could enhance healthcare policy and guide needs-based modifications of the healthcare system.

relatively short (Shojania, Sampson, Ansari, & Duce, 2007), a systematic review was conducted to identify which factors, under what circumstances, are associated with place of EOL care for patients with cancer. To reflect a more up-to-date context of EOL care, research focused on articles from 1997–2007. To provide insight about knowledge development related to place of EOL care, bibliometric analysis also was undertaken.

## Methods

### Theoretical Model for Study and Analysis

Gomes and Higginson (2006) modeled a network of influencing factors related to place of EOL care. In the model, variations in place of death are explained by

interactions among three primary characteristics: illness, individual factors, and environment. The model offers a practical means of mapping of a broad set of determinants to a variety of places of EOL care and was used to guide data abstraction, analysis, and results presentation.

## Literature Search

Meta-study and -analysis techniques described by Egger and Smith (1998) and Egger, Smith, and Altman (2001) provided the general review methodology. A recognized search strategy from the Centre for Reviews and Dissemination (1996) was used to identify reports that either investigated place of EOL care or identified place of EOL care in relation to outcomes relevant to EOL care for patients with cancer. Inclusion criteria included primary published research (qualitative and quantitative), cancer diagnosis with cancer-related cause of death, reported outcomes including factors that affect place of EOL care, factors affecting place of terminal care stated by the authors or appearing from the published data to be an important element of the study findings, study data collected from 1997–2007, and studies written in English or French.

Previous EOL-related reviews have found that large-scale epidemiologic reports or descriptive, exploratory, and observational studies form the majority of the identified reports (Finlay et al., 2002; Franks et al., 2000; Goodwin et al., 2002; Higginson & Sen-Gupta, 2000; Thomas, 2005). Attrition, recruitment challenges, ethical concerns, and sample selection bias typically limit the use or appropriateness of randomized, controlled trials with EOL patients (Ahlner-Elmqvist, Jordhoy, Jannert, Fayers, & Kaasa, 2004; Goodwin et al.; Higginson & Sen-Gupta); therefore, a broad range of evidence was sought and study design was not an inclusion criteria.

Four bibliographic databases (MEDLINE®, EMBASE®, CINAHL®, and PsychINFO) were searched. Search terms were synonyms for *place of care, place of death, or placement; hospice, home, hospital, nursing home, institution, or residence; dying, terminal, terminally ill, palliative, or palliative care; terminal illness, cancer, oncology, or neoplasm; and demographic factors*.

Given that place of EOL care inquiry is diffusely distributed across broad topic areas such as patient-perceived burden, quality of life (QOL), healthcare services, and symptom management, traditional search protocols described by Greenhalgh and Peacock (2005) were supplemented. The current study's authors used snowball sampling by scrutinizing indexes of journals that contributed the most publications in the electronic search (e.g., *Palliative Medicine, Journal of Palliative Care, Cancer Nursing*) and scanned reference lists of retrieved articles. In addition, the authors asked experts to recommend relevant papers and were attentive to the possibility of serendipitous findings when searching other related research. Grey literature, generally consisting

of unpublished and unindexed reports that have not been peer reviewed (GreyNet, 2004), were not included because of Cook et al.'s (2001) findings on the minimal contributive value of grey literature to reviews.

## Data Extraction and Quality Assessment

Papers were independently screened at three levels (titles, abstracts, full text). Ambiguous citations were retained for additional review, with disagreements resolved by consensus. Reports of a single study were logged as a single entity for data extraction. Two reviewers evaluated studies for validity, methodologic rigor, and relevance to the review's focus.

Papers selected for full-text review underwent quality assessment and content abstraction. Content was abstracted to a standardized tool used in previous systematic reviews (Joanna Briggs Institute, 2004). Critical quality appraisals were conducted independently by two reviewers using previously published quality assessment tools appropriate to specific study designs (Fain, 2004; Goodwin et al., 2002; Joanna Briggs Institute). Quality assessment scores were compared and consensus reached.

Meta-analysis was not attempted because of the heterogeneity among study designs, outcome measures, and findings. However, the included report findings were thematically synthesized and mapped to the Variations in Place of Care Model (Gomes & Higginson, 2006). Basic bibliometric analysis was undertaken to identify the state of knowledge development around place of EOL care. Publication counts, authorship frequency, and dissemination patterns were examined. Details about search strategy, selection decisions, quality assessments, and analysis are available upon request from the primary author.

## Findings

### Characteristics of Eligible Studies

The search revealed 735 potentially relevant reports. Ninety-four percent were identified via electronic search with an additional 45 reports added from hard-copy searches and colleague referrals. The final sample included 39 reports reflecting 33 different studies (see Figure 1).

The studies represent more than 35 million patients in 15 countries, mostly from Canada, the United States, and the United Kingdom. Considerable heterogeneity existed in study characteristics, such as design, population, sample size, and reported outcome measures. All studies had some weakness. Most common were selection bias, reliance on administrative data, limited use of validated measures, and participant attrition. Quality appraisal, based on included studies' published descriptions, varied considerably (quality scores ranged from 45%–93%). The most frequent gaps were in failing to state a guiding

### Potentially relevant studies identified and screened for retrieval (N = 735)

- Papers identified in electronic search (n = 690)
- Papers identified in hand search (n = 45)

### Excluded at title or abstract (N = 520)

- Duplicates (n = 63)
- Do not fit inclusion criteria (n = 451)
- Language (n = 6)

### Reports retrieved for more detailed evaluation (N = 215)

### Excluded after full review (N = 176)

- Do not meet inclusion criteria (n = 162)
- Unable to access (n = 14)

### Reports included in the review (N = 39)

- Multiple reports of unique studies (n = 11)
  - Two published reports from a single study (n = 8)
  - Three published reports from a single study (n = 3)

### Unique studies included in the review (N = 33)

## Figure 1. Flow of Identified Studies Through Review

conceptual or theoretical framework, or in failing to state that ethics board approval had been obtained. Descriptive studies such as retrospective reviews, surveys, and smaller descriptive studies involving patients with a terminal illness, families, or care providers were the most prevalent, followed by large-scale epidemiologic reports. Two systematic reviews and one cluster randomized trial were identified. Figure 2 details the study designs of included reports.

Home was the most common reference point for studies. Several studies dichotomized place of EOL care as home versus nonhome. Hospital was the most frequently identified nonhome location, followed by hospice and nursing home.

## Factors Related to Place of End-of-Life Care

Environmental factors were the most frequently identified determinants for place of EOL care, followed by individual and illness factors. Home, as a place of EOL care, was commonly related to personal characteristics, availability and intensity of home care and community-based services, caregiver factors, and preferences. Nonhome places of EOL care were commonly related to cancer diagnosis and symptom intensity, age, gender, and healthcare system factors. Specific results from the included studies are mapped in Table 1.

**Environmental factors:** Variables within the healthcare system were the most influential and consistently reported determinants. Characteristics of healthcare delivery systems affected place of EOL care, particularly community-based care. Presence of social support emerged as a strong consideration for home as a place of EOL care. The importance of and connections to informal caregivers were striking for home and slightly less so for nonhome locations; geographic influences were variable.

**Individual factors:** Patient and caregiver views emerged as important determinants. However, a wide range of social determinants mitigated place of EOL care for patients and caregivers. Factors could either enhance or impair decisions regarding place of EOL care, depending on patient characteristics and circumstances. Overall, the evidence pointed to the need for individualized discussions based on patient preferences and context.

**Illness factors:** A wide range of illness-related factors affect place of care for patients nearing EOL. Overall health, function status, and complexity of care needs were common considerations for patients receiving EOL care in the included studies.

## Mapping the Evolution of the Field From 1997–2007

MEDLINE yielded the most electronic citations, followed by EMBASE and CINAHL. Included reports were published in 19 journals. Thirty-four of 39 reports (87%) focused on place of EOL care and were published in the last five years of the review period (2002–2007). The most prolific year was 2005, with 10 reports. Articles had an average of 3.76 authors per paper; six individuals had authorship on three or more included reports, with one having authorship on five. Within the data set, palliative care journals were the most frequent publication venue (see Table 2). Of the papers where the discipline of the first author was identified, nursing was the most frequent, followed by medicine. The most common affiliation of first authors was reported as a university. First authors were more likely to come from the United Kingdom, followed by the United States and Scandinavia (see Figure 3).

### Descriptive Retrospective Reviews

Back et al., 2005; Carlsson & Rollison, 2003; Chvetzoff et al., 2005; Grande et al., 2003; Howat et al., 2007; Izquierdo-Porrera et al., 2001; Maida, 2002; Tang, 2002

### Surveys

Cantwell et al., 2000; Choi et al., 2005; Fukui et al., 2003; Gyllenhammar et al., 2003; Kessler et al., 2005; Tang, 2003a; Tang et al., 2005

### Small Descriptive Studies

Ahlner-Elmqvist et al., 2004; Hirai et al., 2006; McCall & Rice, 2005; Murray et al., 2003; Tang, 2003b; Tang & McCorkle, 2003; Teirnan et al., 2002; Thomas, 2005; Thomas et al., 2004

### Large-Scale Epidemiologic Reports

Aabom et al., 2005; Bruera et al., 2002, 2003; Burge et al., 2003; Fiory et al., 2004; Fukui et al., 2004; Gatrell et al., 2003; Lackan et al., 2004; Lock & Higginson, 2005; Neurel et al., 2005; Tang, 2003b

### Cluster Randomized Trial

Jordhoy et al., 2000, 2003

### Systematic Reviews

Gomes & Higginson, 2006; Higginson & Sen-Gupta, 2000

## Figure 2. Reports Categorized by Study Designs



**Table 1. Factors Related to Home, Nonhome, Hospital, Hospice, and Nursing Home Venues for End-of-Life Care**

Venue	Illness Factors	Individual Factors	Environmental Factors
Home	<b>Tumor related</b> <ul style="list-style-type: none"><li>• Solid tumors (Howat et al., 2007; Maida, 2002; Tang, 2002)</li></ul> <b>General health</b> <ul style="list-style-type: none"><li>• Higher functional status across trajectory or dying phase (Fukui et al., 2003, 2004)</li><li>• Less complex care needs (Fukui et al., 2004; Thomas, 2005)</li><li>• Longer survival (Tang, 2003a)</li><li>• Low functional status (Chvetzoff et al., 2005; Gomes &amp; Higginson, 2006; Tang, 2002, 2003b)</li><li>• Pain on admission to homecare service (Tang, 2002)</li></ul>	<b>Demographic variables</b> <ul style="list-style-type: none"><li>• Cultural concerns (Tang et al., 2005)</li><li>• Home ownership (Maida, 2002)</li></ul> <b>Personal variables</b> <ul style="list-style-type: none"><li>• Attitude toward healthcare providers (Tang, 2003b; Thomas et al., 2004; Thomas, 2005)</li><li>• Being informed (Gyllnehammar et al., 2003)</li><li>• Female (Tang, 2003a)</li><li>• Male (Carlsson &amp; Rollison, 2003; Jordhoy et al., 2000)</li><li>• Older age (Fukui et al., 2003, 2004)</li><li>• Past experience with death (McCall &amp; Rice, 2005; Thomas et al., 2004)</li><li>• Perceived quality of life (Tang, 2003b)</li><li>• Personal preference (Gomes &amp; Higginson, 2006; Gyllnehammar et al., 2003; Higginson &amp; Sen-Gupta, 2000; Hirai et al., 2006; McCall &amp; Rice, 2005; Tang, 2003a, 2003b; Teirnan et al., 2002; Thomas et al., 2004)</li><li>• Younger age (Bruera et al., 2003; Howat et al., 2007; Jordhoy et al., 2000)</li></ul>	<b>Healthcare input</b> <ul style="list-style-type: none"><li>• Culture of practice (Thomas 2005)</li><li>• Distance to services (Carlsson &amp; Rollison, 2003; Thomas 2005)</li><li>• Homecare use (Gomes &amp; Higginson, 2006; Howat et al., 2007; Jordhoy et al., 2000; Maida, 2002; Tang, 2003b)</li><li>• Intensity/type of home care (Ahlner-Elmqvist et al., 2004; Fukui et al., 2003; Gomes &amp; Higginson, 2006; Grande et al., 2003; Howat et al., 2007; Jordhoy et al., 2000; Maida, 2002; Tang, 2002; Tang 2003a; Tang &amp; McCorkle, 2003; Thomas et al., 2004)</li><li>• Less hospitalization (Fukui et al., 2003, 2004; Tang, 2002, 2003a; Tang &amp; McCorkle, 2003)</li><li>• Multidisciplinary team support/visits (Chvetzoff et al., 2005; Fukui et al., 2003, 2004; Jordhoy et al., 2000; Tang 2003b; Thomas, 2005)</li><li>• Rural (Choi et al., 2005; Gomes &amp; Higginson, 2006)</li><li>• Service infrastructure (Jordhoy et al., 2000; Thomas, 2005)</li></ul> <b>Social support</b> <ul style="list-style-type: none"><li>• Caregiver factors (Cantwell et al., 2000; Fukui et al., 2003, 2004; Maida, 2002; Tang, 2003a, 2003b; Tang &amp; McCorkle, 2003; Tang et al., 2005)</li><li>• Caregiver support (Fukui et al., 2003, 2004; Izquierdo-Porrera et al., 2001; McCall &amp; Rice, 2005; Tang, 2003b; Tang et al., 2005; Thomas et al., 2004; Thomas, 2005)</li><li>• Financial support (Bruera et al., 2002; Choi et al., 2005; Thomas, 2005)</li><li>• Living with someone (Carlsson &amp; Rollison, 2003; Fukui et al., 2003; Gomes &amp; Higginson, 2006; Gyllnehammar et al., 2003; Jordhoy et al., 2000; Thomas et al., 2004)</li><li>• Married (Aabom et al., 2005; Bruera et al., 2003; Choi et al., 2005; Fukui et al., 2003; Howat et al., 2007; Jordhoy et al., 2000)</li></ul> <b>Macrosocial factors</b> <ul style="list-style-type: none"><li>• Historical trends (Gomes &amp; Higginson, 2006)</li></ul>
Nonhome	<b>Tumor related</b> <ul style="list-style-type: none"><li>• Longer time from diagnosis to death (Burge et al., 2003)</li><li>• Nonsolid tumors (Aabom et al., 2005; Bruera et al., 2002, 2003; Gatrell et al., 2003; Gomes &amp; Higginson, 2006; Lock &amp; Higginson, 2005; Maida, 2002)</li><li>• Palliative radiation (Burge et al., 2004)</li><li>• Solid tumors (Lackan et al., 2004; Lock &amp; Higginson, 2005)</li><li>• Short survival (Aabom et al., 2005)</li></ul> <b>General health</b> <ul style="list-style-type: none"><li>• Comorbidities (Grande et al., 2003; Gyllnehammar et al., 2003; Izquierdo-Porrera et al., 2001)</li></ul>	<b>Demographic variables</b> <ul style="list-style-type: none"><li>• Higher education (Gatrell et al., 2003; Lackan et al., 2004)</li><li>• Higher social class (Kessler et al., 2005; Lackan et al., 2004)</li><li>• Lower social status (Gatrell et al., 2003)</li></ul> <b>Personal variables</b> <ul style="list-style-type: none"><li>• Ethnicity (Bruera et al., 2002, 2003; Fiory et al., 2004; Lackan et al., 2004)</li><li>• Female (Burge et al., 2003; Carlsson &amp; Rollison, 2003; Jordhoy et al., 2000; Thomas et al., 2005)</li><li>• Male (Bruera et al., 2003; Neurel et al., 2005)</li><li>• Older age (Burge et al., 2004; Gatrell et al., 2003; Jordhoy et al., 2000, 2003; Neurel et al., 2005)</li></ul>	<b>Healthcare input</b> <ul style="list-style-type: none"><li>• Admitted to palliative care program (Burge et al., 2003)</li><li>• Homecare agency affiliation with hospital (Fukui et al., 2003)</li><li>• Nonacute care setting (Back et al., 2005)</li><li>• Previous home care (Jordhoy et al., 2000)</li><li>• Previous experience (Higginson &amp; Sen-Gupta, 2000)</li><li>• Prior enrollment in managed care (Lackan et al., 2004)</li><li>• Proximity to hospital (Bruera et al., 2003; Gatrell et al., 2003; Kessler et al., 2005)</li><li>• Rural (Burge et al., 2003)</li><li>• Visiting general practitioners and nurses (Aabom et al., 2005)</li></ul> <b>Social support</b> <ul style="list-style-type: none"><li>• Active caregiver/support seeking (Kessler et al., 2005)</li><li>• Caregiver attitude/anxiety/ability (Kessler et al., 2005; Tang &amp; McCorkle, 2003)</li><li>• Living alone (Carlsson &amp; Rollison, 2003)</li><li>• Married (Lackan et al., 2004)</li><li>• Not living with spouse (Jordhoy et al., 2000, 2003)</li><li>• Practical concerns (Tang et al., 2005)</li><li>• Trust relationship with providers (Tang, 2003a)</li></ul>

(Continued)

**Table 1. Factors Related to Home, Nonhome, Hospital, Hospice, and Nursing Home Venues for End-of-Life Care (Continued)**

Venue	Illness Factors	Individual Factors	Environmental Factors
Nonhome (continued)	<ul style="list-style-type: none"><li>• Low functional status (Jordhoy et al., 2000)</li><li>• Poor global overall health (Jordhoy et al., 2000, 2003)</li><li>• Symptoms (Howat et al., 2007; Jordhoy et al., 2000; Teirnan et al., 2002)</li><li>• Weight loss (Izquierdo-Porrera et al., 2001)</li></ul>	<ul style="list-style-type: none"><li>• Perceived burden (Murray et al., 2003)</li><li>• Perceived safety (Kessler et al., 2005) Tang, 2003a; Tang et al., 2005)</li><li>• Poor function (Jordhoy et al., 2000)</li><li>• Younger age (Gatrell et al., 2003; Kessler et al., 2005; Lackan et al., 2004; Neurel et al., 2005)</li></ul>	<b>Macrosocial factors</b> <ul style="list-style-type: none"><li>• National and community policies (Thomas et al., 2004)</li><li>• Regional trends (Neurel et al., 2005 )</li></ul>
Hospital	<b>Tumor related</b> <ul style="list-style-type: none"><li>• Nonsolid tumors (Aabom et al., 2005; Bruera et al., 2002, 2003; Gatrell et al., 2003; Gomes &amp; Higginson, 2006; Maida, 2002; Neurel et al., 2005)</li><li>• Solid tumors (Lackan et al., 2004; Lock &amp; Higginson, 2005)</li></ul> <b>General health</b> <ul style="list-style-type: none"><li>• Palliative radiation (Burge et al., 2003)</li><li>• Short survival (Aabom et al., 2005)</li><li>• Symptom control (Howat et al., 2007; Teirnan et al., 2002)</li><li>• Weight loss and comorbidities (Izquierdo-Porrera et al., 2001)</li></ul>	<b>Demographic variables</b> <ul style="list-style-type: none"><li>• Higher education (Gatrell et al., 2003; Lackan et al., 2004)</li><li>• Higher social class (Kessler et al., 2005; Lackan et al., 2004)</li><li>• Lower social status (Gatrell et al., 2003)</li></ul> <b>Personal variables</b> <ul style="list-style-type: none"><li>• Ethnicity (Bruera et al., 2002, 2003; Fiory et al., 2004; Lackan et al., 2004)</li><li>• Male (Bruera et al., 2003; Neurel et al., 2005)</li><li>• Older age (Gatrell et al., 2003)</li><li>• Women living alone (Carlsson &amp; Rollison, 2003)</li><li>• Younger age (Gatrell et al., 2003; Kessler et al., 2005; Lackan et al., 2004)</li></ul>	<b>Healthcare input</b> <ul style="list-style-type: none"><li>• Geographic proximity (Bruera et al., 2003; Gatrell et al., 2003; Kessler et al., 2005)</li><li>• Previous experience (Higginson &amp; Sen-Gupta, 2000; Lackan et al., 2004)</li><li>• Prior enrollment in managed care (Lackan et al., 2004)</li></ul> <b>Social support</b> <ul style="list-style-type: none"><li>• Active caregiver information/support seeking (Kessler et al., 2005)</li><li>• Caregiver attitude/anxiety (Kessler et al., 2005)</li><li>• Homecare agency affiliation with hospital (Fukui et al., 2003)</li><li>• Married (Lackan et al., 2004)</li><li>• Trust relationship with providers (Tang, 2003a)</li></ul> <b>Macrosocial factors</b> <ul style="list-style-type: none"><li>• Regional trends (Neurel et al., 2005)</li></ul>
Hospice	<b>Tumor related</b> <ul style="list-style-type: none"><li>• Solid tumors (Lackan et al., 2004; Lock &amp; Higginson, 2005)</li></ul>	<b>Demographic variables</b> <ul style="list-style-type: none"><li>• Higher education (Gatrell et al., 2003; Lackan et al., 2004)</li><li>• Higher social class (Kessler et al., 2005; Lackan et al., 2004)</li><li>• Non-Hispanic (Lackan et al., 2004)</li></ul> <b>Personal variables</b> <ul style="list-style-type: none"><li>• Living alone (Carlsson &amp; Rollison, 2003)</li><li>• Younger age (Gatrell et al., 2003; Kessler et al., 2005; Lackan et al., 2004)</li></ul>	<b>Healthcare input</b> <ul style="list-style-type: none"><li>• Geographic proximity (Gatrell et al., 2003; Kessler et al., 2005)</li><li>• Prior enrollment in managed care (Lackan et al., 2004)</li><li>• Previous experience (Higginson &amp; Sen-Gupta, 2000)</li></ul> <b>Social support</b> <ul style="list-style-type: none"><li>• Active caregiver information/support-seeking (Kessler et al., 2005)</li><li>• Married (Lackan et al., 2004)</li></ul>
Nursing home	<b>Tumor related</b> <ul style="list-style-type: none"><li>• Solid tumors (Lock, 2005)</li></ul> <b>General health</b> <ul style="list-style-type: none"><li>• Low functional status (Jordhoy et al., 2000, 2003)</li><li>• Poor global overall health (Jordhoy et al., 2000, 2003)</li><li>• Symptoms (Jordhoy et al., 2000)</li></ul>	<b>Personal variables</b> <ul style="list-style-type: none"><li>• Female (Gatrell et al., 2003; Jordhoy et al., 2000)</li><li>• Older (Gatrell et al., 2003; Jordhoy et al., 2000, 2003)</li><li>• Poor cognitive/social functioning (Jordhoy et al., 2000)</li></ul>	<b>Healthcare input</b> <ul style="list-style-type: none"><li>• Nonproximity to a hospital (Gatrell et al., 2003)</li><li>• Previous homecare functioning (Jordhoy et al., 2000)</li></ul> <b>Social support</b> <ul style="list-style-type: none"><li>• Not living with spouse (Jordhoy et al., 2000, 2003)</li></ul>

**Table 2. Publication Venue of Included Reports**

Characteristic	n
<b>Specialty journals (N = 26)</b>	
Palliative care	15
Oncology	6
Symptom specific	5
<b>General medicine or nursing journals (N = 13)</b>	
Medicine	7
Nonspecific	5
Nursing	1

## Discussion

The evidence in this review comes from several different countries, cultures, and clinical settings, confirming that place of EOL care is a common concern. Overall, findings from the review reinforce that individual, contextual, and practical considerations shape how people deal with place of EOL care and how healthcare systems respond. Findings from this review have major policy implications for decision makers interested in reforming EOL care for patients with cancer and for clinicians in their daily practice.

Patient-centered coordinated care is pivotal to quality of EOL care (Bircumshaw, 1993). Findings suggest that illness factors and characteristics of the healthcare system, rather than patient preferences and needs, often drive decisions about place of EOL care. Patient preferences have been linked to psychological and social health as much as to physical health (Sherbourne, Strum, & Wells, 1999); therefore, patient-centered EOL care planning should incorporate strategies to elicit patient preferences in a timely and effective manner.

Delays in identifying transition points in goals of care, such as a changing focus from curative to supportive approaches, can limit patients' opportunities to benefit from such approaches. Prognostic uncertainty, funding issues, lack of relevant expertise, and boundary issues between providers and services have been identified as troublesome issues (Addington-Hall, Fakhoury, & McCarthy, 1998). In response, several researchers (Fins et al., 1999; Lynn, 2005), policy makers (Romanov, 2000; World Health Organization, 2006), and professional organizations (Canadian Strategy on Palliative and End-of-Life Care Working Group, 2005; Institute of Medicine, 2001) advocate models that combine life-prolonging care with palliative approaches. Typically, within these models, disease-modifying approaches that focus on QOL and respect for patient autonomy and choice begin at diagnosis and continue throughout the illness trajectory.

As cancer is increasingly considered a chronic condition, principles from chronic condition management models (Wagner et al., 2005), which acknowledge the patients as experts in their situations and emphasize a patient/practitioner partnership, may be more conducive to

meeting the needs and preferences of patients and families considering place of EOL care (Murray, 2007). A randomized, controlled trial by Lorig et al. (1999) supported this philosophy when a chronic condition management approach was used with patients diagnosed with stroke, arthritis, heart disease, or lung disease.

The findings also reinforce that place of EOL care emerges from a complex set of relations and preparations that occur when a patient is diagnosed with terminal cancer. Arrangements and characteristics of healthcare services emerge as an important influence on place of EOL care. The importance of social and healthcare system factors is consistent with other non-cancer-specific reviews of place of EOL care (Gomes & Higginson, 2006; Higginson & Sen-Gupta, 2000). Other studies confirm that patients consider trust in their healthcare team, avoidance of unwanted life support, effective communication, continuity of care, having time with loved ones, and having a sense of completing life tasks to be the most important elements of quality EOL care (Heyland et al., 2006; Singer, Martin, & Kellner, 1999). Given the pressure to strengthen the links among evidence, policy, and practice, policy makers may use these findings to plan healthcare systems that are responsive to patient preferences, circumstances, and needs.

Many studies used home as the primary reference point. The current review's findings suggest that place of EOL care is less important than how patients experience that care. Modeling the complexities and interconnections between determinants of place of EOL care for patients with cancer is difficult. The authors' approach was to abstract the details, make a number of simplifications, and hope the resulting low-resolution model would capture the essence of the underlying dynamics. Additional qualitative studies may provide

### Discipline

Not specified (n = 18)

Nursing (n = 11)

Medicine (n = 10)

### Affiliation

University (n = 25)

Clinical practice (n = 11)

Other (n = 3)

### Country of Study's Origin

United Kingdom (n = 10)

United States (n = 8)

Scandinavia (n = 6)

Canada (n = 5)

Taiwan (n = 4)

Japan (n = 3)

France (n = 1)

South Korea (n = 1)

Australia (n = 1)

### Figure 3. Demographic Characteristics of Studies' First Authors

new insights; however, they will not capture the tension between what happens at the level of the individual and what is transferable to other patients and situations.

A quality EOL decision is consistent with an informed patient's values and preferences, is acted upon, and results from shared decision making where patients are involved in the process, are informed of options and the uncertainty of outcomes, participate in the actual decision to the extent desired, and are satisfied with the process (Levy & Curtis, 2006; Murray, Miller, Fiset, O'Connor, & Jacobsen, 2004). Given this definition, place of EOL care is not a measure of a quality decision; therefore, healthcare providers should be cautious about presenting death at home as the gold standard. Favoring one location over another may disregard the multiplicity of factors considered by patients, create unrealistic expectations, and not benefit patients or healthcare service planning. Clinicians should be mindful to think in therapeutic terms rather than geographic landscapes.

Another finding of this review is that preferences matter. Several studies showed that stating and sharing preferences with others influenced place of EOL care. When patients and caregivers acknowledge the possibility of death and discuss options in an open, sensitive manner, the chances of dying in a preferred location increase. Although patients are frequently thinking about place of EOL care (Voltz, Akabayashia, Reese, & Hans-Martin, 1998), clinicians may avoid raising the topic (Chang, Hwang, Feueman, & Kasimis, 2000; Higginson & Romer, 2000; Zhukovsky, Abdullah, Ricardson, & Walsh, 2000), feel unprepared to engage in palliative conversations (Docherty, Miles, & Brandon, 2007), and often lack skills and confidence in helping patients in nondirective ways (Murray, Fiset, & O'Connor, 2004). In addition, families and practitioners often misjudge patients' wishes regarding EOL care (Ditto et al., 2001; Miura et al., 2006); therefore, advance-care planning discussions should include a range of goals considered important to patients. Opportunities for skills development and practice in conversations about death and dying should be included in professional pre- and postlicensure education programming (Epstein & Street, 2007; Fitch, 2007).

## Bibliometric Analysis

Preliminary bibliometrics were conducted. Analysis of publication patterns, frequency, and author contribution citations provides a proxy measure of how knowledge is developed and disseminated within and outside a field of study (Estabrooks, Winther, & Derkson, 2004). The bibliometric analysis showed that studies were predominantly published in palliative care journals. Given that few patients at EOL receive specialty palliative care, implications for knowledge exchange are evident (Carstairs & Beaudoin, 2000). Gaining access to a wider audience of healthcare professionals is necessary to ensure that emerging strategies to address place

of EOL care are relevant and meaningful. Knowledge translation encompasses both knowledge creation and application. Using planned action theories and frameworks and proven knowledge-transfer strategies could foster a broader understanding of the determinants of place of EOL care and the subsequent implications.

## Limitations

Completeness of the literature search, language limitations, and inconsistencies in terminology and idiosyncrasies in database indexing influenced the final data set and ultimately limited the review. Study design diversity and outcome measures made it impossible to synthesize findings with meta-analysis techniques or to fully capture the impact of individual determinants on place of EOL care. However, efforts to conduct a transparent, comprehensive review characterized by careful searching, multiple levels of critical appraisal, reviewer reflexivity, and implementation of quality control mechanisms to minimize bias and error represent a useful contribution to the knowledge about determinants of place of EOL cancer care.

## Conclusion

Home, as a place of EOL care, often is preferred by patients. However, the presence of caregivers and contact patterns with healthcare services influence place of EOL care. The findings of this article suggest that home versus nonhome as the preferred site for EOL care may not capture the multiple determinants affecting place of EOL care. This review contributes to the discourse about the state of the evidence from 1997–2007, how the published evidence is disseminated, and the salient methodologic implications that affect the knowledge related to place of EOL care. This review strengthens the understanding of place of EOL care and may lead to the identification of best practices to meet the needs of patients who entrust healthcare professionals with their care; the ultimate *raison d'être* of palliative care research and praxis.

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