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Brief Report

Availability of Palliative Care in Long-Term Acute Care Hospitals

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A B S T R A C T

Objective: To determine the availability of palliative care programs in long-term acute care hospitals (LTACHs)
Design: Cross-sectional analysis using the 2016 American Hospital Association (AHA) Annual Survey.
Setting and Participants: LTACHs in the United States.
Method: We used descriptive analyses to compare the prevalence of palliative care programs in LTACHs across the United States in 2016. For LTACHs without a program, we also examined palliative care physician capacity in regions where those LTACHs resided to evaluate if expertise existed in those regions.
Results: One-third (36.5%) of 405 LTACHs (50.6% response rate) self-reported having a palliative care program. Among LTACHs without palliative care, 42.4% were in regions with the highest palliative care physician capacity nationwide.
Conclusions and Implications: LTACHs care for patients with serious and prolonged illnesses, many of whom would benefit from palliative care. Despite this, our study finds that specialty palliative care is limited in LTACHs. The limited palliative care availability in LTACHs is mismatched with the needs of this seriously ill population. Greater focus on increasing palliative care in LTACHs is essential and may be feasible as 40% of LTACHs without a palliative care program were located in regions with the highest palliative care physician capacity.

Long-term acute care hospitals (LTACHs) care for patients with complex and severe illness requiring extended inpatient care following a short-stay acute care hospitalization.[1] The Centers for Medicare & Medicaid Services defines an LTACH as a hospital with an average inpatient length of stay (LOS) of greater than 25 days.[2] LTACHs care for patients with a variety of care needs, including prolonged mechanical ventilation, complex wound care, dialysis, and rehabilitation.[3–5] Patients transferred to LTACHs have prognoses similar to patients with metastatic cancer or other end-stage illness, with a median survival of only 8 months, and spend the majority of their remaining life in an inpatient setting.[6]

Palliative care is specialized medical care for people with serious illness.[7] Palliative care is associated with improved quality of life,[8–11] better symptom control,[8–11] and decreased LOS and readmissions, leading to reduced costs.[8,12] Many patients in LTACHs have a serious illness and are thus eligible to receive specialty palliative care.[6,13,14]

Availability of palliative care has increased in the United States, with 75% of acute care hospitals with 50 or more beds having a palliative care program in 2016.[15] However, it is not known whether LTACH patients have access to palliative care. Therefore, we examined

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the availability of palliative care in LTACHs in the United States. Because we hypothesized that the prevalence would be low, we also examined palliative care physician capacity of regions in the United States where LTACHs without a palliative care program resided to examine if such expertise is potentially available to these LTACHs.

Methods

Design and Data Sources

We analyzed the 2016 American Hospital Association (AHA) Annual Survey of Hospitals to examine the availability of self-reported palliative care programs and related services (eg, geriatric care and hospice) for LTACHs. For LTACHs without a palliative care program, we examined palliative care physician capacity in the hospital referral regions (HRRs) where these LTACHs resided using data from the 2016 Profile of Active Hospice and Palliative Medicine Physicians.[16]

Secondary Analysis

Because the AHA Survey had a 50% nonresponse rate for LTACHs and lacked information on staffing composition, we conducted a secondary analysis examining palliative care availability and staffing (physicians, nurses, social workers, chaplains) in California LTACHs using the 2016 Hospital Utilization Report from the California Office of Statewide Health Planning and Development (OSHPD), which included legislatively mandated, self-reported data and had a 100% response rate among California LTACHs.

Palliative Care Availability in LTACHs

The AHA Annual Survey defined a palliative care program as "an organized program providing specialized medical care, drugs or therapies for the management of acute or chronic pain and/or the control of symptoms administered by specially trained physicians and other clinicians; and supportive care services, such as counseling on advanced directives, spiritual care, and social services, to patients with advanced diseases and their families."[17] The AHA Survey also asked respondents to specify whether this service was provided or owned by the hospital, by an affiliated health system, or offered through a joint venture or contract with an outside entity. The California OSHPD survey defined a palliative care program as "an interdisciplinary team that sees patients, identifies needs, makes treatment recommendations, facilitates patient and/or family decision-making, and/or directly provides palliative care for patients with serious illness or their families."[18]

Statistical Analyses

We used descriptive analyses to characterize LTACHs with and without a palliative care program, including ownership, structure, bed size, patient volume, geographic location, availability of palliative care–related services, and source of palliative care program if applicable.

For LTACHs without a palliative care program, we created a heat map of palliative care physician capacity, defined as the number of these physicians per 100,000 people in the HRR in which these LTACHs are located, using HRR boundary data from the Dartmouth Atlas.[19] Regional palliative care physician capacity was categorized into deciles based on capacity for all 306 HRRs in the United States.

Analyses were conducted in Stata, version 16 (AHA data; StataCorp, College Station, TX), Microsoft Excel (OSHPD; Microsoft Corp, Redmond, WA), and RStudio, version 1.2.5033 (heat map; R Foundation for Statistical Computing, Vienna, Austria). The study was exempt from institutional review board review.

Results

National Analysis

Of the 405 LTACHs in the United States in 2016, 205 (50.6%) responded to the AHA Annual Survey. Among respondents, 73 (35.6%) self-reported having a palliative care program (Table 1). Compared with LTACHs that reported having a palliative care program, LTACHs without a palliative care program were more commonly for-profit (79.5% vs 45.2%), part of a multihospital system (88.6% vs 79.5%), smaller (94.7% had <100 beds vs 82.2%), and located in the Midwest (18.9% vs 11.0%) or South (70.5% vs 64.4%), but were otherwise similar in admission volume, total inpatient days, location (freestanding vs hospital-within-hospital), and metropolitan status. About half (52.1%) of LTACHs with a palliative care program nationwide offered chaplaincy services, 8.2% had a hospice program, and 12.3% offered geriatric care, which were all more prevalent in LTACHs with a palliative care program than in LTACHs without. In nearly half of LTACHs with a palliative care program, that service was provided by the LTACH directly, in 28.8% it was provided by the affiliated health system, and in 23.3% it was provided by a joint venture with an outside entity. Nonrespondent LTACHs were more commonly for-profit (86.5%) and located in the Midwest (29.5%) and West (20.0%) but were otherwise similar to LTACHs that reported having a palliative care program.

Regional Palliative Care Physician Capacity

The 132 LTACHs without a palliative care program were located in 85 unique HRRs (Figure 1). Palliative care physician capacity for these HRRs ranged from 0 to almost 40 physicians per 100,000 people, with a median of 12.7 physicians (interquartile range, 8.0-17.3). Palliative care physician capacity for the 85 HRRs was similar to the 221 other HRRs (median of 12.7 vs 12.0 physicians per 100,000 people, $P = .66$). Of the 132 LTACHs without a palliative care program, 27 (20.4%) resided in HRRs in the lowest 3 deciles of palliative care physician capacity nationwide (<8.8 physicians), 49 (37.1%) resided in HRRs in the middle 4 deciles (8.8-16.3 physicians), and 56 (42.4%) resided in HRRs in the highest 3 deciles (16.3-55.1 physicians).

Secondary Analysis

Of the 24 California LTACHs, only 1 (4.2%) self-reported having a palliative care program in OSHPD, which consisted of 1 palliative care social worker and 1 chaplain. Six LTACHs in California also responded to the AHA survey, 4 of which self-reported having a palliative care program.

Discussion

In this national study, one-third (35.6%) of LTACHs self-reported having a palliative care program. However, palliative care availability in LTACHs may be lower for several reasons. First, nearly 50% of LTACHs did not respond to the AHA Annual Survey. Nonrespondent LTACHs were overwhelmingly for-profit, which per our analysis and other studies of acute care hospitals are less likely to offer palliative care.[20,21] Furthermore, our secondary analysis of California LTACHs from the same time period, which had a 100% response rate, indicated that only 1 of 24 LTACHs had a palliative care program, which consisted of only a single social worker and chaplain. Second, the AHA survey may overestimate palliative care availability even among respondents. For the 6 California LTACHs participating in both surveys, 4 self-reported having a palliative care program in the AHA survey but only 1 in the OSHPD data. The reason for this discrepancy is unclear, but may be due to California's legislative mandate to report

Table 1
Characteristics of LTACHs With and Without a Palliative Care Program Nationwide

Characteristic	Has a PC Program (n = 73)	No PC Program (n = 132)	*P* Value	Nonrespondents (n = 200)
Ownership			<.001	
For-profit, investor-owned	33 (45.2)	105 (79.5)		173 (86.5)
Not-for-profit	34 (46.6)	25 (18.9)		21 (10.5)
Government, nonfederal	6 (8.2)	2 (1.5)		6 (3.0)
Part of a multihospital system	58 (79.5)	117 (88.6)	.08	29 (14.5)
Bed size			.02	
6-49 beds	38 (52.1)	78 (59.1)		105 (52.5)
50-99 beds	22 (30.1)	47 (35.6)		64 (32.0)
≥100 beds	13 (17.8)	7 (5.3)		31 (15.5)
Total admissions, median (IQR)	363 (262-582)	383 (305-549)	.79	550 (369-922)
Total inpatient days, median (IQR)	10,667 (6958-17,297)	10,500 (8172-14,171)	.91	9142 (6184-16,256)
Metropolitan location	69 (94.5)	120 (90.9)	.36	194 (97.0)
Region			.04	
Northeast	9 (12.3)	8 (6.1)		24 (12.0)
Midwest	8 (11.0)	25 (18.9)		59 (29.5)
South	47 (64.4)	93 (70.5)		77 (38.5)
West	9 (12.3)	6 (4.6)		40 (20.0)
Location			.47	
Freestanding	42 (57.5)	69 (52.3)		—
Hospital-within-hospital	31 (42.5)	63 (47.7)		—
Programs/services provided by hospital				
Hospice program	6 (8.2)	0	.001	—
Chaplaincy	38 (52.1)	30 (22.7)	<.001	—
Geriatric services	9 (12.3)	10 (7.6)	.26	—
Source of palliative care program				
Owned and provided by hospital	35 (48.0)	0	n/a	—
Provided by the health system	21 (28.8)	0	n/a	—
Contract and joint venture with outside entity	17 (23.3)	0	n/a	—

IQR, interquartile range; n/a, not available; PC, palliative care.
Unless otherwise noted, values are n (%).

corresponding palliative care staffing data, which is not included in the AHA survey, or because of differing definitions used in each survey.

LTACH patients most closely resemble patients in step-down units or intensive care units in acute care hospitals regarding their care needs and meet most commonly recognized definitions of serious illness for which specialty palliative care is recommended.[13,14,22] Despite this, specialty palliative care is much more available in acute care hospitals of at least 50 beds than in LTACHs of similar size (75% vs

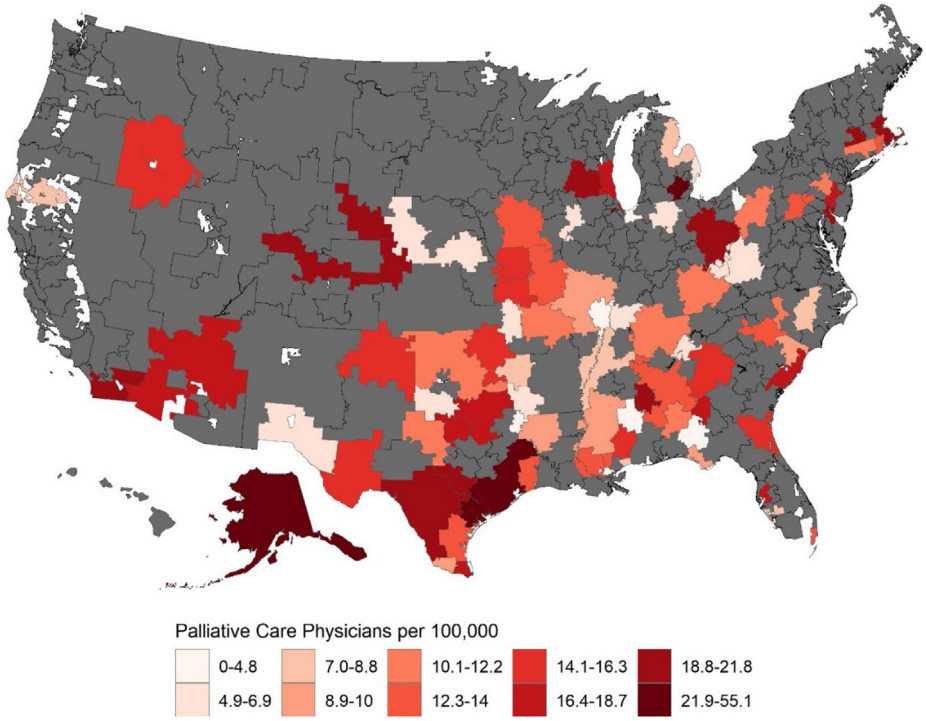

Fig. 1. Palliative care physician capacity for the 85 hospital referral regions (HRRs) with at least 1 LTACH that did not report having a palliative care program. Deciles are defined according to palliative care physician capacity across all 306 HRRs in the United States, in order to provide a national benchmark of palliative care physician capacity for the 85 HRRs containing at least 1 LTACH without a palliative care program. HRRs shaded in dark gray represent HRRs that did not include an LTACH without a palliative care program.

39%). Acute care hospitals with fewer than 50 beds had similarly limited availability compared with LTACHs of similar size (36% vs 33%), but these hospitals do not care for as many patients with complex and prolonged illness as LTACHs do.[16]

Establishing and maintaining a palliative care program is not without its challenges.[20] One potential barrier is scarcity of expertise. However, more than 40% of LTACHs without palliative care resided in regions with among the highest palliative care physician capacity in the country (Figure 1). These LTACHs may have greater opportunity to employ or contract with a palliative care physician to establish and direct a program. However, some HRRs are large, and palliative care physicians may be unable to provide in-person palliative care because of travel distance. Directly employing or contracting with a palliative care physician will be more challenging in regions with more limited palliative care physician capacity. Additionally, palliative care programs require other interdisciplinary team members such as nurses and social workers for which expertise may also be scarce. Thus, creative models of delivering palliative care in LTACHs may be required. For example, social workers, nurses, or physicians can be trained to deliver primary palliative care.[23,24] Primary palliative care has been defined as "palliative care that is delivered by health care professionals who are not palliative care specialists, such as primary care clinicians; physicians who are disease-oriented specialists (such as oncologists and cardiologists); and nurses, social workers, pharmacists, chaplains, and others who care for this population but are not certified in palliative care."[25] Additionally, given the prolonged LOSs, LTACHs may only need palliative care staffing once or twice per week. Moreover, during the COVID-19 pandemic, there was a significant rise in telemedicine, including for palliative care, which suggests the potential for tele–palliative care models in LTACHs.[26]

Given that palliative care may shorten hospitalizations,[8,12] another potential barrier is policies that tie reimbursement to LOS. LTACHs must maintain an average LOS of >25 days.[27] Reimbursement for patients with shorter-than-average LOS are subject to a short-stay outlier (SSO) adjustment, which is a considerably lower payment than for patients whose LOS exceeds the SSO threshold.[28] Omitting patients who opt for hospice care from LOS requirement under §412.23(e)(2) and fully reimbursing LTACHs for patients who desire premature discharge for hospice care even if their LOS is less than the SSO threshold could align incentives, promote patient and caregiver preferences, and encourage development of palliative care in LTACHs without concern for loss of revenue.[29,30] Conversely, once the SSO threshold has been reached, extending the stay only increases costs for facilities because LTACHs are reimbursed a bundled payment by Medicare.[28] Thus, implementing palliative care may significantly reduce costs for LTACHs if, after a trial of continued intensive life-prolonging and curative care, patients and caregivers decide to change their goals and pursue comfort-focused care.

This study has certain limitations. First, we used prevalence of palliative care programs and palliative care staffing to estimate availability of specialty palliative care, but palliative care could have been provided through primary palliative care, which we would not have captured. Further research is needed to better understand the burden of unmet palliative care needs in this population, and how it may differ among LTACHs. Second, we relied on self-reported data, which we anticipate would overestimate the true prevalence of palliative care programs in LTACHs. Third, the national data did not have detailed information regarding the staffing composition of palliative care programs. However, in our analysis of 24 California LTACHs, zero California LTACHs self-reported employing a single palliative care physician. Finally, we report data from 2016, so palliative care availability may have changed.

Conclusions and Implications

Despite caring for patients with serious illnesses with poor prognoses, only a minority of LTACHs in the United States have a palliative care program. More than 40% of LTACHs without a palliative care program reside in regions with among the highest palliative care physician capacity in the country, which suggests the availability of local expertise to develop or staff a program. Training staff to provide primary palliative care and tele–palliative care models could also address potential shortage of palliative care expertise in LTACHs. Ensuring the availability of these services has the potential to improve LTACH patient and caregiver satisfaction, quality of life, and end-of-life experiences, while decreasing burdensome care.

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