

Characteristics of Palliative Care Consultation Services in California Hospitals

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Abstract

Background: Although hospital palliative care consultation services (PCCS) can improve a variety of clinical and nonclinical outcomes, little is known about how these services are structured.

Methods: We surveyed all 351 acute care hospitals in California to examine the structure and characteristics of those hospitals with PCCS.

Results: We achieved a 92% response rate. Thirty-one percent ($n=107$) of hospitals reported having a PCCS. Teams commonly included physicians (87%), social workers (80%), spiritual care professionals (77%), and registered nurses (71%). Nearly all PCCS were available on-site during weekday business hours; 50% were available on-site or by phone in the weekday evenings and 54% were available during weekend daytime hours. The PCCS saw an average of 347 patients annually (median=310, standard deviation [SD]=217), or 258 patients per clinical full-time equivalent (FTE; median=250, SD=150.3). Overall, 60% of consultation services reported they are struggling to cope with the workload. On average, patients were in the hospital 5.9 days (median=5.5, SD=3.3) prior to referral to PCCS, and remained in the hospital for 6 days (median=4, SD=7.9) following the initial consultation. Patient and family meetings were an aspect of the consultation in 74% of cases. Overall, 21% of consultation patients were discharged home with hospice services and 25% died in the hospital.

Conclusions: There is variation in how PCCS in California hospitals are structured and in the ways they engage with patients. Ultimately, linking PCCS characteristics and practices to patient and family outcomes will identify best practices that PCCS can use to maximize quality.

Introduction

APPROXIMATELY HALF OF AMERICANS die in hospitals¹ and nearly all Medicare decedents are hospitalized in the last year of life.² Unfortunately, there are widespread shortfalls in the quality of care for these patients.³ Hospitalized patients and their families report inadequate symptom relief and many receive interventions they do not want and from which they will not benefit.^{4,5} Hospital palliative care consultation services (PCCS) are an important approach to addressing these shortcomings in care.^{6,7} PCCS are designed to improve symptom management, promote understanding of prognosis and treatment options, clarify goals of care, provide psychosocial and spiritual support, and assist with planning postdischarge care.⁸

Multiple studies have shown that PCCS increase patient and family satisfaction,^{3,9} improve quality of life,⁶ reduce length of time in intensive care units,¹⁰ and decrease hospital

costs.^{3,11} However, little is known about the structure and characteristics of PCCS. Ultimately, such information will be critical for establishing norms of practice and understanding which PCCS features lead to the best patient outcomes. To address these knowledge gaps, we surveyed all acute care hospitals in California to describe the prevalence, structure, and characteristics of PCCS.

Methods

The study population, survey instrument, and procedures have been previously described¹² and are summarized below (survey available from the authors).

Hospitals

We used data from the California Office of Statewide Health Planning and Development to identify all 379 adult

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and pediatric acute hospitals in California. We excluded specialty hospitals, as they were not expected to offer palliative care services, leaving a sample of 351 hospitals.

Survey

Survey items addressed hospital characteristics such as number of beds, system affiliation, type of ownership, and teaching status; PCCS characteristics including year established, number of patients seen, staffing levels, and availability; and information about patient care processes and nonclinical outcomes including disciplines involved in consultation, patient location at time of referral, duration of hospitalization following consultation, and discharge disposition. The survey was administered in early 2008 and asked for responses for calendar year 2007. The UCSF Committee on Human Research approved the study.

Survey administration and respondents

The survey was administered by the National Health Foundation (NHF), which distributed an invitation to complete the survey to the chief executive officer (CEO) of each hospital in the study population. The e-mail introduced the survey and asked that the palliative care leader or the person most knowledgeable about the hospital's palliative care services complete the survey. Hospitals were considered to be nonresponders if they had not completed the survey after three e-mail reminders and three telephone calls from NHF. Information about the respondents was kept confidential and separate from responses about the palliative care services.

Data definitions and statistical analysis

For data describing staffing levels, PCCS total full-time equivalent (FTE) was calculated by summing effort dedicated to the PCCS by physicians, advanced practice nurses, registered nurses, social workers, and chaplains (we asked about physician assistants but no hospitals reported having any on the PCCS). We defined PCCS nurse/physician FTE as effort of physicians, advanced practice nurses, and registered nurses. For example, if a site reported PCCS staffing that included a physician (FTE=0.5), nurse (FTE=1.0), and a social worker (FTE=1.0), the total PCCS FTE would be reported as 2.5 FTE, and the PCCS clinical FTE would be 1.5 FTE. We calculated a patient/FTE ratio by dividing the number of patients seen by the PCCS in a year by the two defined FTEs.

Descriptive statistics (frequencies, mean median, standard deviation [SD]) were used to examine the distribution of measures. We used χ^2 analysis to test for bivariate associations between categorical variables, and analysis of variance (ANOVA) to examine associations between categorical and continuous variables. The Statistical Package for the Social Sciences (SPSS) for Mac (version 17; SPSS, Inc., Chicago, IL, March 11, 2009) was used to analyze these data.

Results

Hospitals

Overall, 324 of the 351 acute care hospitals in our sample responded to the survey, resulting in a 92% response rate. Among respondents, hospital size ranged from 10 to 1022 beds, with a mean size of 220 beds (median=180, SD=159).

The majority of the hospitals were nonprofit (62%, $n=200$), half ($n=165$) reported having a system affiliation, and 18% ($n=58$) were teaching sites. There were no significant differences between responding and nonresponding hospitals in any of these characteristics.

Overall, 31% ($n=107$) of hospitals reported having a PCCS. Hospitals with PCCS ranged in size from 48 to 1022 beds, with an average size of 316 beds (median=310; SD=186), which is significantly larger ($p=0.0001$) than those hospitals that did not have a PCCS (mean=174, median=45, range: 10–598). Significantly more hospitals ($p=0.0001$) with 300 or more beds had PCCS (51.9%, $n=55$), as compared with those with 150 to 299 beds (28.3%, $n=30$), and fewer than 150 beds (19.8%, $n=21$). Hospitals with PCCS were more likely to have a system affiliation (73.8%, $n=79$, $p=0.0001$), and to be nonprofit (91.6%, $n=98$, $p=0.0001$). Although only 18% ($n=58$) of hospitals were teaching sites, they accounted for 33% ($n=35$) of the PCCS, and were more likely to offer PCCS than non-teaching sites (60% versus 27%, $p=0.0001$).

Characteristics of PCCS

PCCS age. The PCCS had been in operation for an average of 4 years (median=4.0, SD=3.2). Although the oldest PCCS was 28 years old, 19% of PCCS ($n=20$) had been operational for less than 12 months.

Availability. The availability of the PCCS varied across days of the week (Table 1). On weekdays almost 100% of PCCS were available during usual business hours (9am–5pm). For weekday night coverage, a very small proportion of PCCS (2%) had staff on-site, although 50% were available by phone, including 24% that were available to return to the hospital if needed. Weekend day (9am–5pm) coverage was less robust, with 13% of PCCS maintaining on-site coverage and an additional 41% available by phone. Weekend night coverage was similar to weekday night coverage, with nearly half of PCCS (49%) available by phone after hours.

PCCS patient care meetings. Overall, 90% of PCCS reported that they hold regular team meetings to discuss patient care. One-third of PCCS conduct meetings daily or more frequently, 18% meet several times a week, and 29% meet

TABLE 1. AVAILABILITY OF INPATIENT PCCS BY DAY OF THE WEEK AND TIME OF DAY ($N=104$)

Period of the week and time of day ($n=104$)	Levels of involvement			
	On-site %(n)	On call able to return to hospital %(n)	On call available by phone %(n)	Not available %(n)
Weekdays				
Usual business hours	97 (101)	2 (2)	1 (1)	0 (0)
After hours	2 (2)	24 (25)	26 (27)	48 (50)
Weekend				
Usual business hours	13 (13)	20 (21)	21 (22)	45 (47)
After hours	1 (1)	20 (21)	27 (28)	52 (53)

PCCS, palliative care consultation services.

once a week. A few PCCS reported meeting only every other week (2%) or once a month (7%).

Census. The PCCS saw an average of 347 patients annually (median=310, SD=217, range: 25–933). Of the 88 sites that reported on census trends, 54% ($n=57$) stated that current volume was higher compared with the year before, 15% ($n=16$) had steady volume, and 14% ($n=15$) saw fewer patients. Hospital size was associated with census, with more patients seen by PCCS at hospitals with 300 or more beds (413 patients, 95% confidence interval [CI]=346–481) and 150 to 299 beds (348 patients, 95% CI=272–424) than at hospitals with 150 or fewer beds (149 patients, 95% CI=93–205) ($p=0.001$).

We asked respondents to estimate what proportion of all hospitalized patients who would benefit from palliative care was being referred to the PCCS. A total of 13% ($n=14$) of PCCS believed they saw less than one-quarter of patients who would benefit from a consultation, 46% ($n=48$) of PCCS believed they saw one-quarter to one-half of patients who would benefit, 30% ($n=31$) believed they saw one-half to three-quarters of patients who would benefit, and 11% ($n=12$) believed they saw more than three-quarters of patients who would benefit from a PCCS consultation. We found no association between the estimate of the proportion of patients who would benefit from being referred to the PCCS and hospital characteristics such as bed size ($p=0.6$), teaching status ($p=0.3$), having a system affiliation ($p=0.4$), and age of service ($p=0.2$).

Overall 60% ($n=63$) of PCCS reported that they are struggling to cope with the workload. A further 39% ($n=40$) stated that their staffing level was about right, and 1% ($n=1$) stated that they had more staff than they need for the current patient volume.

Patient characteristics. Of the 47 (44%) PCCS that shared information about patient characteristics, the mean patient age was 69.6 years (median=71 years, SD=7.9, range: 50–84), and half were women. Of the 65 services reporting primary diagnosis of patients seen, cancer was most common (38%), followed by pulmonary conditions (18%), cardiac conditions (16%), dementia (12%), and neurological conditions (11%).

Patient location at time of referral. The majority of consultation requests were for patients who were on an acute medical-surgical unit (55%), followed by intensive care units (29%), step-down or transitional care units (7%), subacute units (3%), emergency department (3%), and outpatient clinics (2%).

Service length of stay. For the 61 sites (57%) that reported these data, the average number of days that patients were followed by the PCCS (service length of stay [LOS]) was 6.1 days (median=4, SD=7.9, range: 1–53.5). There were no associations between service LOS and hospital size ($p=0.27$), age of service ($p=0.98$), hospital type ($p=0.71$), system affiliation ($p=0.61$), or teaching status ($p=0.85$).

The average time that patients were in the hospital prior to being seen by a PCCS was 5.9 days (median=5.5, SD=3.3, range: 1–15). Patients in teaching hospitals were in the hospital longer prior to receiving a palliative care consultation than those at nonteaching hospitals (7.3 days, 95% CI=5.4–9.3 versus 5.2 days, 95% CI=4.2–6.2, $p=0.03$).

Goals of care. Seventy-nine percent of PCCS ($n=74$) tracked information pertaining to frequency of patient and family care conferences (defined as “meetings where appropriate members of the team provide information and support, and discuss goals of care, disease prognosis, and advanced care planning with patients and families”). On average, PCCS held care conferences with 73% (median=90%) of patients.

Discharge disposition. A total of 62 (58%) PCCS were able to report on the discharge disposition of their patients. Overall, 25% (median=25, SD=15.6, range: 0–58) of PCCS patients died in the hospital. A further 21% were discharged home with hospice services, 11% were discharged with home care, 14% were discharged to home with no services, 20% were discharged to a nursing home, a small proportion (2%) of patients transitioned to an inpatient hospice, and 7% reported an “other” unidentified discharge disposition.

Follow-up. Almost 50% ($n=52$) of hospitals with a PCCS reported that they did not follow patients after they have been discharged. Of the PCCS that did so, the most common follow-up methods were to contact a family member by telephone (62%), refer patients to an outpatient palliative care service (40%), or contact the primary care provider by telephone (37%).

PCCS staffing

Disciplines on team. The vast majority of PCCS included physicians (87%, $n=93$), social workers (80%, $n=86$), spiritual care providers (77%, $n=82$), and registered nurses (71%, $n=76$). Nearly half of PCCS reported having an advanced practice nurse on the team (44%, $n=47$).

Overall, 16% ($n=17$) of PCCS consisted of five team members including a physician, social worker, spiritual care provider, registered nurse, and advanced practice nurse; 45% ($n=48$) had four members in the team; and 27% ($n=29$) had three members in their PCCS team. Of those PCCS with only one member (6%), four of them consisted of a registered nurse only and two were a physician only. There were seven PCCS with only two team members (7%) consisting of a combination of a physician (43%, $n=6$), advanced practice nurse (29%, $n=4$), registered nurse (14%, $n=2$), and a chaplain (14%, $n=2$). Of the 47 PCCS with an advanced practice nurse, only four did not have a physician.

Staffing involvement. The level of involvement of PCCS team members in direct patient care varied by whether a patient was being evaluated for the first time (initial patient assessment) or in follow-up (Fig. 1). More than half of the PCCS reported that all team members routinely saw the patient at the initial assessment. The team member most likely to participate routinely in an initial assessment was the registered nurse (83% of the time), followed by the advanced practice nurse (65%), the social worker (57%), the spiritual care counselor (54%), and the physician (51%). There was a considerable decrease in the routine use of all disciplines for follow-up assessments.

Staff total FTE and nurse/physician FTE. A total of 94 hospitals (87.9%) reported the level of staffing dedicated to the PCCS. The mean total FTE was 2.2 (median=2.0, SD=1.3,

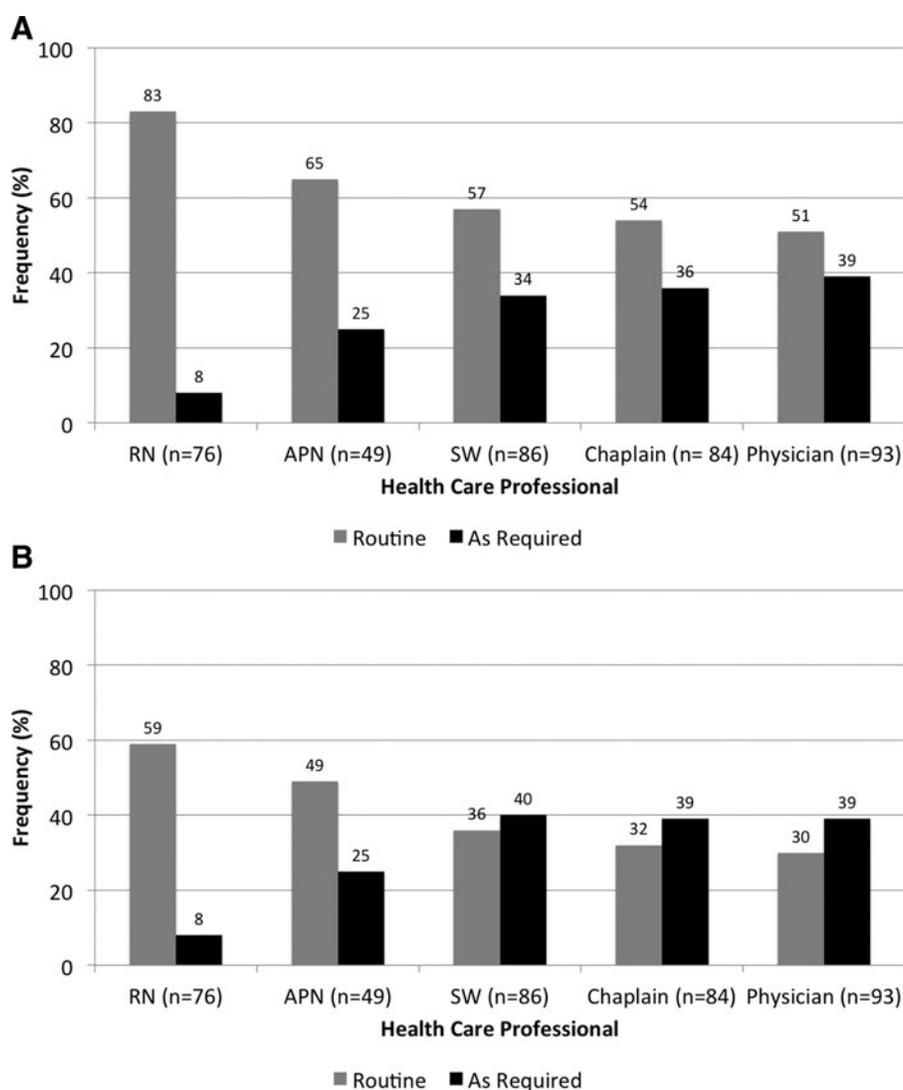


FIG. 1. Level of involvement of PCCS team members at (A) initial and (B) follow-up assessment.

range: 0.7–7.0), and the mean nurse/physician FTE was 1.5 (median=1.5, SD=0.9, range: 0.2–4.0). Whereas there was no association ($p=0.09$) between hospital size and total FTE, there was an association between hospital size and nurse/physician FTE ($p=0.04$) with lower nurse/physician FTE being reported in hospitals with fewer than 150 beds (mean=1.0, 95% CI=0.6–1.5) compared with hospitals with 150 to 299 beds (mean=1.5, 95% CI=1.2–1.7) and 300 or more beds (mean=1.7, 95% CI=1.3–1.7).

Patients seen per total FTE and nurse/physician FTE. On average PCCS saw 188 initial patient consultations per total FTE per year (median=167, SD=112, range: 10–464) and 258 initial patient consultations per nurse/physician FTE per year (median=250, SD=150.3, range: 12–800). Significantly more patients ($p=0.05$) were seen per nurse/physician FTE each year in hospitals with 150 to 299 beds and 300 or more beds when compared with those with fewer than 150 beds (Table 2).

We asked respondents to report whether they were able to cope with patient volume (Table 3). Of 72 hospitals that responded, 64% ($n=46$) stated they were able to cope and 36% ($n=26$) struggled to cope. The perceived ability to cope was

associated with the number of patients a PCCS saw per year per total FTE ($p=0.001$) and nurse/physician FTE ($p=0.003$). PCCS that reported that they were able to cope saw approximately 133 initial patient consultations (95% CI=102–165) per total FTE per year or 190 per clinical FTE each year (95% CI=148–232) and those that reported that they struggled to cope saw 220 (95% CI=185–255) initial patients per FTE or 297 (95% CI=250–345) per nurse/physician FTE.

Discussion

In California, large hospitals, teaching hospitals, nonprofits, and system-affiliated sites are more likely to offer PCCS. The high prevalence in teaching sites (60%) is significant, as they help to educate trainees about palliative care. The finding that 19% of PCCS had been operational for less than one year demonstrates the growth of the field, and the ongoing need for efforts to sustain and ensure the quality of these new services.

Although the National Quality Forum's preferred practices for quality palliative and hospice care state that PCCS, "Provide access to palliative and hospice care that is responsive to the patient and family 24 hours a day, 7 days a week"¹³ only

TABLE 2. COMPARISON BETWEEN HOSPITAL SIZE AND NUMBER OF PATIENTS SEEN PER TOTAL FTE^a AND NURSE/PHYSICIAN FTE^b PER YEAR

Hospital size	N	Mean number of patients seen	95% CI	P value
Total FTE				0.07
< 150 Beds	11	119	57-180	
150-299 beds	24	192	141-243	
300+ beds	38	206	171-241	
Nurse/Physician FTE				0.05
< 150 Beds	11	158	93-222	
150-299 beds	24	262	208-316	
300+ beds	38	284	233-293	

^aTotal FTE includes staffing for physicians, advanced practice nurses, registered nurses, social workers, and chaplains.

^bNurse/Physician FTE includes staffing for physicians, advanced practice nurses, and registered nurses. FTE, full-time equivalent.

half of PCCS surveyed report such availability, and many sites provide night and weekend service only by telephone. Ideally, service availability would track to patient need, which would seem to require 24/7 availability to optimally serve patients suffering from unrelieved symptoms or who are actively dying. However, until data are available that link patient and family outcomes to specific staffing availability, each site is left to determine individually the best way to allocate staffing resources. For example, a hospital may have to choose between more physicians or nurse FTE to provide night and weekend staffing or a dedicated palliative care social worker.

Half of the sites surveyed had volumes that were trending upward, and more than 60% were struggling to cope with workload. Despite these data, 59% of survey respondents felt they were seeing half or fewer of the patients who would benefit from consultation. Most services were modestly staffed, with an average total FTE of 2.2 and average nurse/physician FTE of 1.5. Although it is clear that most services may need additional staffing to keep up with current workload, much less to reach all potential patients, it is also clear that at present most PCCS require a very modest investment from the hospital.

PCCS see more patients per FTE at larger hospitals and tend to have proportionately less dedicated support from social work and chaplain disciplines. Although benchmark-

TABLE 3. ASSOCIATION BETWEEN PERCEIVED ABILITY TO COPE WITH PATIENT VOLUME AND NUMBER OF PATIENTS SEEN BY TOTAL FTE^a AND NURSE/PHYSICIAN FTE^b

FTE	N	Mean number of patients/year	95% CI	P value
Total FTE				0.001
Able to cope	26	133	102-165	
Struggle to cope	46	220	185-255	
Nurse/Physician FTE				0.003
Able to cope	26	190	148-232	
Struggle to cope	46	297	250-345	

^aTotal FTE includes staffing for physicians, advanced practice nurses, registered nurses, social workers, and chaplains.

^bNurse/Physician FTE includes staffing for physicians, advanced practice nurses, and registered nurses. FTE, full-time equivalent.

ing data on appropriate staffing levels are not yet available, teams had fairly clear ideas on what felt comfortable, with a threshold of 190 initial patient consultations per nurse/physician FTE per year. The fact that many sites were carrying a higher patient load may indicate that many PCCS may be at risk of burnout, and that hospitals may need to increase staffing.

Most patients had relatively long stays prior to referral to PCCS that were even longer (7.3 days versus 5.2 days) at teaching sites. Whether the delay in PCCS consultation at teaching sites arose from differences in case mix, general practice patterns, or the involvement of trainees is unknown. In fact, case mix could explain many differences among PCCS including staffing, length of stay, and other variables. Unfortunately, we did not have the data necessary to adjust for case mix. Regardless, the prevailing pattern was for PCCS to become involved in care at about the halfway point of a hospitalization. It is reasonable to assume that for many patients, the need for palliative care could have been identified early and possibly at the time of admission, had an assessment aimed at identifying palliative care needs been conducted. Only 3% of PCCS patients were referred from the emergency department, indicating that this site may offer an untapped opportunity to introduce palliative care early in the hospitalization, a practice that could provide significant benefit to patients and families, and hospitals.

Our data revealed other important characteristics of PCCS. First, the PCCS surveyed held meetings to discuss goals of care in 73% of consultations, although there was a wide range. Whereas our data cannot determine how often meetings should occur, the high frequency would be expected given that clarifying goals of care is a key aspect of palliative care. Second, only 23% of patients seen by the PCCS died in the hospital, refuting the notion that PCCS are “brink of death” services that care for mostly imminently dying patients. Third, although nearly all PCCS teams were interdisciplinary, there was significant variation in how frequently the teams met to discuss patient care and in which disciplines they were routinely involved in initial and follow-up assessments. Finally, only half of the PCCS routinely followed patients after discharge, raising concerns about discontinuity of care. Out-patient palliative care services and community partnerships could help bridge this gap while providing additional benefits in terms of quality of life and survival.¹³

Our findings should be tempered by the following limitations. Our survey relied on self-report information that has potential inaccuracies owing to poor recall, or limited access to information about PCCS structures and processes of care. These potential sources of error were mitigated by our efforts to distribute the survey to individuals who would be most knowledgeable about their hospital’s palliative care program. In addition, not all respondents answered every question. We addressed this limitation by reporting only those items to which a large number of respondents replied. Finally, we did not have the data necessary to adjust for case mix. It is possible that case mix including severity of illness and risk of mortality of patients seen by a PCCS could account for differences among PCCS and associations between characteristics.

Our results provide a snapshot of hospital PCCS and provide individual PCCS and hospital with data for comparison. We offer the caveat that although our data provide normative information within this cohort, our data do not identify best

practices. As PCCS continue to develop there will be increasing need for normative and benchmarking data such as those reported here to help guide PCCS growth and sustainability. Ultimately, linking PCCS characteristics and practices to patient and family outcomes will identify best practices that PCCS can use to maximize quality.

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