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Quality of Palliative Care at U.S. Hospices: Results of a National Survey

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Abstract

Background—The National Quality Forum (NQF) identified hospice services as a national priority area for healthcare quality improvement and endorsed a set of preferred practices for quality palliative and hospice care. This study reports the first national data regarding hospices' self-reported implementation of the NQF preferred practices and identifies hospice characteristics associated with more comprehensive implementation.

Methods—We conducted a national cross-sectional survey of a random sample of hospices (n=591; response rate 84%) from September 2008 to November 2009. We evaluated the reported implementation of NQF preferred practices in the care of both patients and families.

Results—The range of reported implementation of individual NQF preferred practices among hospices was 45–97%. Twenty-one percent of hospices reported having implemented all patient-centered preferred practices, 26% all family-centered preferred practices, and 10% all patient and family-centered preferred practices. In adjusted analyses, large hospices (100 or more patients per day) were significantly more likely than small hospices (less than 20 patients per day) to report

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having implemented all patient-centered preferred practices (OR=2.46, 95%CI 1.24, 4.90) and all family-centered preferred practices (OR=1.88, 95%CI 1.02, 3.45). Similarly, chain-affiliated hospices were significantly more likely than free-standing hospices to report having implemented all patient-centered preferred practices (OR=2.45, 95%CI 1.23, 4.87) and all family-centered preferred practices (OR=1.85, 95%CI 1.01, 3.41).

Conclusions—Hospices' reported implementation of individual preferred practices for palliative and hospice care quality was high; however, reported comprehensive implementation of preferred practices was rare and may be difficult to achieve for small, free-standing hospices.

Keywords

hospice & palliative medicine; quality

INTRODUCTION

The use of hospice services in the U.S. is rapidly expanding, with hospices now serving an estimated 1.6 million patients.¹ Currently, more than one-third of decedents use hospice services at some point during the course of their illness¹ costing Medicare more than \$9 billion per year.² Given this rapid expansion, the National Consensus Project (NCP) was established by the major hospice and palliative care organizations in the United States (the American Academy of Hospice and Palliative Medicine, the Hospice and Palliative Care Nurses Association, the Center to Advance Palliative Care, and the National Hospice and Palliative Care Organization) to develop Clinical Practice Guidelines for Quality Palliative Care.³ These guidelines encompass care provided by multiple disciplines and include physical aspects of care, psychological and psychiatric aspects of care, social aspects of care, spiritual, religious, and existential aspects of care, cultural aspects of care, care of the imminently dying patient, ethical and legal aspects of care, and structures and processes of care. In 2006, the National Quality Forum (NQF) adapted these guidelines into a set of preferred practices⁴ for palliative and hospice care quality and identified hospice services as a national priority area for healthcare quality improvement.

This study reports the first national data regarding the extent to which hospices report having implemented the NQF preferred practices. Specifically, we report results from a national survey of hospices regarding their processes of care for serving both patients and families using measures derived from the work of the NQF in the following five areas: 1) the frequency of pain and symptom assessment and management, 2) the composition of the inter-disciplinary palliative care team, 3) the content of patient goals of care discussions, 4) the extent of supportive services for family caregivers, and 5) the existence of ongoing quality improvement activities. Although the NQF preferred practices relate to both palliative care and hospice care, this study measures their application in the hospice setting. We report the frequency with which hospices report having implemented preferred practices and estimate the hospice characteristics (including size, years providing hospice care, chain membership, ownership and region) that are associated with more comprehensive implementation of preferred practices. As use and expenditures for hospice care accelerate, identifying successes and potential shortcomings in hospices' implementation of preferred practices for palliative and hospice care can help inform efforts to improve quality of care for patients and their families who face terminal illnesses.

METHODS

STUDY DESIGN AND SAMPLE

We conducted a national cross-sectional study of a random sample of 775 hospices operating in the United States from September 2008 to November 2009. We chose our random sample of hospices from the 2006 Medicare Provider of Services (POS) file (N=3,036 active hospices), which includes all hospices that participate in the Medicare program (approximately 93% of all hospices nationally).¹ In addition, when the 2008 Medicare POS file (N=3,306 active hospices) became available, we augmented our sample with hospices that were newly operating between 2006 and 2008. We estimated that 18% of hospices had been operating for 2 years or less, and thus we randomly selected 139 hospices (0.18×775) from the 2008 Medicare POS file to establish a total sample of 914 hospices (775 hospices from the 2006 Medicare POS file and 139 younger hospices from the 2008 Medicare POS file). For each POS file, we used a random number generator to generate a random sort order for the hospices, and selected hospices from the top of the list until we had the number needed.

Using the telephone numbers provided in the Medicare POS files, we contacted each hospice in our sample and obtained the email address of the hospice medical director. We sent an introductory email letter to each hospice medical director requesting their participation and a follow-up email with a link to the Web-based survey. Hospice medical directors were instructed to have the survey completed by the individual(s) at their hospice most knowledgeable about the survey questions. Hospices that did not respond to the initial contact received biweekly telephone and email reminders.

SURVEY INSTRUMENT AND MEASURES

The survey instrument was developed after a comprehensive review of published guidelines from the NQF and the NCP. We developed our survey questions based on the NQF/NCP preferred practices that were specific to hospice care and that were measurable at the level of the hospice agency (Table 1). The survey instrument consisted predominantly of closed-ended items and was pre-tested with 16 hospices to assess the clarity and comprehensiveness of survey questions using cognitive interviews⁵ with pre-test respondents. Survey questions were reviewed for readability and face validity and revised as needed. All research procedures were approved by the institutional review board of Yale University.

The survey also included questions regarding descriptive characteristics of hospices including: size (number of patients per day in the past 12 months), years providing hospice care, whether the hospice was part of a chain of hospices, whether the hospice was vertically integrated (i.e., affiliated with) with a hospital, nursing home, home health agency or other healthcare organization, ownership (nonprofit, for-profit, government), and the census region of the hospice.

STATISTICAL ANALYSIS

We determined the proportion of hospices that reported having implemented each of the preferred practices in our survey. We estimated the bivariate associations between hospice organizational characteristics (i.e., size, years providing hospice care, whether the hospice was part of a chain of hospices, whether the hospice was vertically integrated, ownership, and the census region of the hospice) and each performance measure using χ^2 statistics.

We calculated the total number of patient-centered preferred practices (range 0–10) and family-centered preferred practices (range 0–7) reported by each hospice. We used bivariate and multivariable logistic regression models to estimate the associations between hospice

organizational characteristics and two outcomes: 1) reporting all ten patient-centered preferred practices; and 2) reporting all seven family-centered preferred practices.

We used multivariable ordered logistic regression models to estimate the adjusted associations between hospice organizational characteristics and two additional outcomes: 1) the total number of reported patient-centered preferred practices; and 2) the total number of reported family-centered preferred practices. We performed all analyses using SAS software, version 9.1 (SAS Institute, Cary, North Carolina).

RESULTS

STUDY POPULATION

Of the total 914 hospices randomly selected for survey, 208 were excluded because they were no longer providing hospice care or had closed their facility at the time of the survey, resulting in 706 hospices eligible to respond. Of these 706 hospices, 591 completed our survey for a response rate of 84% (591/706). Survey response rates differed by hospice ownership: non-profit hospices (89% response rate), government owned hospices (86% response rate), and for-profit hospices (79% response rate) (p -value=0.004 for chi-squared comparison). There were no significant differences in the response rates by other hospice characteristics available in the Medicare POS files (i.e., years providing hospice care and region). Characteristics of our sample of 591 hospices are shown in Table 2.

PREVALENCE OF PREFERRED PRACTICES FOR HOSPICE CARE

For patient-centered preferred practices, more than 90% of hospices reported: providing 24-hour crisis management phone access to patients and families (97%), having at least nurses, social workers, physicians, and pastoral care/chaplains expected to attend inter-disciplinary team meetings (94%), and annually tracking patient satisfaction (94%) and patient falls/serious injuries and medication errors (90%) (Table 3). Fewer hospices reported including patient goals of care in discussions of patients' plans of care not only at initial admission but also routinely and when clinical conditions changed (55%), and regularly using standardized assessment tools for pain and symptom management (66%).

For family-centered preferred practices, the highest proportion of hospices reported annually tracking data on family caregiver satisfaction with hospice overall (97% of hospices) and annually tracking data on family caregiver satisfaction with bereavement services (89%) (Table 3). Of all family-centered preferred practices, the least common (45%) was including family preferences for care in discussions of patients' plans of care at initial admission, routinely, and when clinical conditions changed.

In bivariate analyses, hospice size and chain membership were each significantly associated with the reported implementation of preferred practices. The greatest differences by hospice size were for having a physician on-call both evenings and weekends, having an ethics committee or ombudsman, and regularly using standardized assessment tools for pain and symptom management. The greatest differences between chain and non-chain hospices were for including patient preferences for care in discussions of patients' plans of care at initial admission, routinely, and when clinical conditions changed, and for including family preferences for care in discussions of patients' plans of care initial admission, routinely, and when clinical conditions changed.

HOSPICE VARIATION IN PREFERRED PRACTICES

Of the total 17 measured preferred practices (10 patient-centered and 7 family-centered), only 10% of hospices reported all 17 practices. For patient-centered care, the mean and

standard deviation (SD) of the number of preferred practices was 8.2 (SD 1.6), with 21% of hospices reporting all 10 preferred practices for patients. For family-centered care, the mean and standard deviation (SD) of the number of preferred practices was 5.6 (SD 1.3), with 26% of hospices reported all 7 preferred practices for families.

HOSPICE CHARACTERISTICS ASSOCIATED WITH PREFERRED PRACTICES

For patient-centered preferred practices, hospices that were larger, members of chains, and in certain geographic regions (i.e., New England) were more likely to report all ten preferred hospice practices (Table 4). These associations were apparent in both bivariate and adjusted analyses. Larger size and chain membership were also significantly associated with reporting all 7 family-centered preferred hospice practices in both bivariate and adjusted analyses (Table 4). The results of ordered logistic regression models (with the dependent variable the number of preferred practices per hospice) were consistent with the logistic regression results and are not shown.

DISCUSSION

Hospices' reported implementation of individual preferred practices recommended by NQF and NCP was high. More than 80% of hospices reported having practices recommended by the guidelines for the majority of measures in the care of both patients and families. In addition, the high prevalence of hospices that reported tracking data on patient safety and on patient and family satisfaction suggests that infrastructure and managerial focus for quality improvement are present at many hospices. Nevertheless, only 10% of hospices reported implementing *all* of the preferred practices measured in this study across both patient-centered and family-centered care, and substantial variation by hospice characteristics existed.

We consistently found that larger size and chain membership distinguished potentially higher quality hospices based on reported implementation of the NQF and NCP guidelines. Hospices with at least an average of 50 patients per day were twice as likely to report preferred practices in the care of both patients and families. Hospice size was particularly important for care processes that required infrastructure investment such as having a physician on-call evenings and weekends, having an ethics committee, and regularly using standardized assessment tools for pain and symptom management. Our findings that both larger size and chain membership were independently associated with greater reported adherence to preferred practices suggests there may be advantages related to risk sharing and economies of scale for these hospices. It may be that larger size or chain membership enables hospices to effectively distribute the financial risk of high-cost patients across a larger patient population or enables hospices to create economies of scale in staffing and administration, both of which provide financial stability. A small study of California hospices⁶ found that larger hospices and hospices that were members of a chain were less likely to restrict the admission of potentially high-cost patients, presumably due to their ability to average the financial risk of high-cost care over a larger patient population. The potential advantages of hospice chain membership are relevant to documented difficulties⁷⁻⁸ of providing hospice care in rural areas. Given that a rural hospice is unlikely to attain an advantageous size (e.g., an average daily census of 50 patients), chain membership could represent a model for bringing high quality hospice care to rural areas. For example, Medicare could create incentives for either chain-affiliated hospices to move into rural markets or for rural hospices to affiliate with existing hospice chains.

Hospice size and chain membership were less relevant for clinical aspects of care such as the reported frequency of pain and symptom management, screening family caregivers at risk for major clinical depression and complicated grief, and the content of discussions of

patients' plans of care. It may be that for clinical care there are fewer opportunities for economies of scale; whereas for management practices and care coordination activities, the opportunities for economies of scale are greater. Further, high quality clinical patient care may be fairly standard across hospice organizational types; whereas process measures less directly linked to clinical patient care may be more variable.

The preferred practices for palliative and hospice care quality least likely to have been reported by hospices relate to the content of patients' plans of care discussions. Specifically, only 45% of hospices reported that family preferences for care are included in discussions of patients' plan of care at initial admission, when clinical conditions change, and on a routine schedule and only 55% of hospices reported that patient goals of care are included in discussions of patients' plan of care at initial admission, when clinical conditions change, and on a routine schedule. This result is consistent with evidence of the challenges of communication at the end of life.⁹⁻¹⁵ It may be that preferred practices addressing communication in the hospice setting are more difficult to implement at the organizational level than are more structural preferred practices such as having 24-hour phone access, tracking data, and the composition of the IDT team.

We found that hospices in New England were more likely than hospices in other regions of the country to report having implemented preferred practices for quality palliative and hospice care, adjusting for hospice characteristics including size, ownership, and chain membership. This may be due to differing market or regulatory environments in New England compared with other regions that may encourage implementation of preferred practices. For example, a recent report¹⁶ found that communities in New England had greater geographic access to hospice and were more likely to have 2 or more hospices within 30 minutes than communities in other regions. It may be that greater competition between hospices in New England provides an incentive for hospices to implement preferred practices. Further research is needed to evaluate the extent to which local market characteristics relate to hospice quality.

This study is the first to evaluate the extent to which hospices across the country report having established preferred practices for quality palliative and hospice care. A limitation of this analysis is that data are self-reported by hospices and thus may over estimate or under estimate the true prevalence of preferred practice implementation. Future studies linking reported preferred practices with patient-level data regarding receipt of specific hospice services are needed. Second, because the NQF guidelines were relatively new and, in some cases, lacked specific operational metrics for defining high quality practices, a strength of this study is that we operationalized and then measured these preferred practices and established a baseline for future assessments of hospices' implementation of preferred practices. Third, we do not have patient level data to verify the frequency with which clinical care processes are received by patients. However, variation across hospices in care processes using patient level data has been reported.¹⁷⁻¹⁹ Finally, although we had a high overall survey response rate of 84% and our survey response rate did not significantly differ by years providing hospice care or region, our survey response rate differed by hospice ownership and we could not test for differences in survey response rate by other hospice characteristics such as size.

For physicians referring patients to hospices, these results are encouraging as they highlight the high prevalence of reported preferred practices in hospices across the country and that hospices, true to their mission, have implemented preferred practices to care for both the patient and the family. The focus on care of the family is particularly important given the poor health outcomes often experienced by caregivers of individuals who are terminally ill.²⁰⁻²² However, it is also important for referring physicians to note that very few hospices

reported all of the preferred practices measured in this study and that smaller hospices, free-standing hospices, and hospices in certain geographic areas may have operationalized fewer preferred practices than other hospices.

The identification of hospice care as a high priority area for quality improvement by the NQF and the subsequent establishment of preferred practices underscore the fact that hospice care, like other areas of healthcare, must adhere to and embrace quality improvement. A critical policy question is determining the extent to which hospices are expected (or will be required) to adopt the set full set of preferred practices. This study identifies a small subset of hospices that report having already implemented all of the preferred practices measured in this study, suggesting that comprehensive implementation may be achievable; however, it may require the structural or economic advantages of larger size or chain affiliation to achieve.

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Table 1

National Hospice Survey Questions*

Patient-Centered Preferred Practices	
1	How often does your hospice staff monitor pain for patients who are receiving hospice in the home? Response: <u>daily, every few days</u> , weekly, less often
2	How often does your hospice staff monitor each of the following symptoms (anxiety, constipation, delirium, depression, dyspnea, fatigue, nausea) for patients who are receiving hospice in the home? Response: <u>daily, every few days</u> , weekly, less often
3	Which of the following standardized assessment tools for pain and symptom management are regularly used by your hospice? (Check all that apply) Response: <u>Pain Assessment in Advanced Dementia Scale, Edmonton Symptom Assessment System, Brief Pain Inventory, Baker-Wong FACES Scale</u> , only use tools customized by my hospice
4	Does your hospice provide 24-hour crisis management phone access to patients and families? Response: <u>yes</u> , no
5	Does your hospice have a physician on-call both evenings and weekend hours to provide clinical advice to family caregivers? Response: <u>yes</u> , no
6	Which staff are expected to attend inter-disciplinary team meetings? (Check all that apply) Response: <u>Physicians, Nurses, Speech/Occupational/Physical Therapists, Nutritionist/Registered Dieticians, Social Workers, Psychologists, Art/Music Therapists, Pharmacists, Pastoral Care/Chaplains, Volunteers, Administrators</u>
7	How often are patient goals of care included in discussions of patients' plans of care? (Check all that apply) Response: <u>at initial admission, when clinical conditions change, on a routine schedule</u> , not discussed
8	How often are each of the following (advance directives, who the legal surrogate is, patient preferences for place of death) included in discussions of patients' plans of care? (Check all that apply) Response: <u>at initial admission, when clinical conditions change, on a routine schedule</u> , not discussed
9	How often does your hospice track data on patient falls/serious injuries, and medication errors? Response: <u>at least quarterly, annually</u> , less often, not at all
10	How often does your hospice track data on patient satisfaction? Response: <u>at least quarterly, annually</u> , less often, not at all
Family-Centered Preferred Practices	
1	Does your hospice have mechanisms in place to address conflicts of interest related to end-of-life care? (Check all that apply) Response: <u>Yes, we have an established ethics committee; Yes, we have ombudsmen</u> ; No, we do not have any mechanism in place; don't know
2	How often are family preferences for care included in discussions of patients' plans of care? (Check all that apply) Response: <u>at initial admission, when clinical conditions change, on a routine schedule</u> , not discussed
3	When does your hospice screen family caregivers who may be at increased risk for the following conditions (major clinical depression, complicated/prolonged grief)? Response: <u>at initial admission, routinely during the patient's stay</u> , at the time of death, we do not screen for this
4	Does your bereavement staff provide pre-death planning? Response: <u>yes</u> , no
5	Does your hospice provide bereavement services to family caregivers beyond 12 months after a patient's death if the family desires it? Response: <u>yes</u> , no
6	How often does your hospice track data on family caregiver satisfaction with bereavement services? Response: <u>at least quarterly, annually</u> , less often, not at all
7	How often does your hospice track data on family caregiver satisfaction with hospice overall? Response: <u>at least quarterly, annually</u> , less often, not at all

* Survey responses consistent with National Quality Forum and National Consensus Project Clinical Practice Guidelines for Quality Palliative Care are underlined

Table 2

Characteristics of Hospices

	Total N=591	%
Size (number of patients per day)		
Less than 20	156	26%
20–49	151	26%
50–99	152	26%
100 or greater	127	21%
Missing	5	1%
Years Providing Hospice Care		
0 to 4 years	156	26%
5 to 9 years	93	16%
10 to 14 years	84	14%
15 years or more	258	44%
Hospice is a Member of a Chain		
Yes	85	14%
No	506	86%
Hospice is Vertically Integrated		
Yes	143	24%
No	448	76%
Ownership		
Nonprofit	283	48%
For-profit	285	48%
Government/Other	23	4%
Census Region		
New England	28	5%
Middle Atlantic	40	7%
East North Central	92	16%
West North Central	69	12%
South Atlantic	96	16%
East South Central	62	10%
West South Central	101	17%
Mountain	51	9%
Pacific	52	9%

Table 3
Patient-Centered and Family-Centered Preferred Practices By Hospice Size and Chain Membership

	Hospice Size (Number of Patients Per Day)					Hospice is a Member of a Chain	
	Total	< 20	20-49	50-99	>= 100	Yes	No
Patient-Centered Preferred Practices							
Hospice provides 24-hour crisis management phone access to patients and families	97%	95%	97%	98%	99%	99%	97%
Nurses, social workers, physicians, and pastoral care/chaplains are expected to attend inter-disciplinary team meetings	94%	90%	95%	95%	97%	95%	94%
Hospice tracks data on patient satisfaction at least annually	94%	90%	95%	95%	95%	98%	93%
Hospice tracks data on patient falls/serious injuries and medication errors at least annually	90%	84%	88%	93%	94%*	98%	88%*
Hospice staff monitors pain at least every few days	87%	82%	88%	90%	87%	92%	86%
Hospice has a physician on-call both evenings and weekends	82%	73%	81%	82%	95%*	91%	81%*
Advance directives, identity of legal surrogate, and patient preferences for place of death are included in discussions of patients' plans of care at least at initial admission	82%	77%	81%	84%	85%	89%	80%*
Hospice staff monitors symptoms at least every few days	71%	70%	73%	72%	71%	72%	71%
Hospice regularly uses a standardized assessment tool for pain and symptom management	66%	59%	62%	70%	74%*	72%	65%
Patient goals of care are included in discussions of patients' plans of care at initial admission, when clinical conditions change, and on a routine schedule	55%	54%	49%	59%	60%	71%	53%*
Family-Centered Preferred Practices							
Hospice tracks data on family caregiver satisfaction with hospice overall at least annually	97%	92%	97%	99%	99%*	91%	89%
Hospice tracks data on family caregiver satisfaction with bereavement services at least annually	89%	81%	91%	91%	93%*	100%	96%*
Hospice screens family caregivers who may be at increased risk for complicated grief and major clinical depression prior to the patient's death	89%	87%	90%	93%	86%	92%	89%
Hospice provides bereavement services to family caregivers beyond 12 months after the patient's death if the family desires it	88%	82%	89%	94%	88%*	93%	88%
Hospice has an ethics committee or ombudsmen to address conflicts of interest	79%	70%	73%	87%	87%*	87%	77%*
Bereavement staff provide pre-death planning	78%	70%	79%	86%	77%*	86%	76%*
Family preferences for care are included in discussions of patients' plans of care at initial admission, when clinical conditions change and on a routine schedule	45%	40%	40%	51%	50%	60%	42%*

* p<0.05 for overall chi-squared test

Table 4

Hospice Characteristics Associated with Patient-Centered and Family-Centered Preferred Practices

	Hospices with all 10 Patient-Centered Preferred Practices				Hospices with all 7 Family-Centered Preferred Practices				
	%	Unadjusted Odds Ratio	95% Confidence Interval	Adjusted Odds Ratio	95% Confidence Interval	Unadjusted Odds Ratio	95% Confidence Interval	Adjusted Odds Ratio	95% Confidence Interval
Total	21%					26%			
Size (patients per day)									
Less than 20	13%	1.00		1.00		20%	1.00	1.00	
20-49	18%	1.39	(0.75, 2.58)	1.40	(0.73, 2.67)	21%	1.12	1.00	(0.65, 1.94)
50-99	26%	2.33	(1.30, 4.18)**	2.28	(1.21, 4.29)*	33%	2.01	1.70	(1.20, 3.37)**
100 or greater	26%	2.29	(1.25, 4.20)**	2.46	(1.24, 4.90)*	32%	1.95	1.88	(1.14, 3.35)*
Years Providing Hospice Care									
0 to 4 years	19%	1.00		1.00		27%	1.00	1.00	
5 to 9 years	23%	1.28	(0.68, 2.40)	0.92	(0.46, 1.81)	28%	1.05	0.76	(0.59, 1.87)
10 to 14 years	19%	1.03	(0.52, 2.03)	0.80	(0.38, 1.69)	25%	0.91	0.73	(0.49, 1.66)
15 years or more	21%	1.19	(0.72, 1.96)	1.00	(0.50, 1.99)	26%	0.93	1.01	(0.59, 1.47)
Hospice is a Member of a Chain									
No	19%	1.00		1.00		24%	1.00	1.00	
Yes	32%	2.04	(1.23, 3.39)**	2.45	(1.23, 4.87)*	42%	2.39	1.85	(1.48, 3.85)**
Hospice is Vertically Integrated									
No	21%	1.00		1.00		24%	1.00	1.00	
Yes	20%	0.98	(0.62, 1.57)	0.68	(0.37, 1.25)	34%	1.61	1.29	(1.07, 2.43)*
Ownership									
Nonprofit	19%	1.00		1.00		22%	1.00	1.00	
For-profit	22%	1.23	(0.82, 1.85)	1.09	(0.60, 2.00)	31%	1.56	1.55	(1.07, 2.27)*
Government	20%	1.09	(0.35, 3.38)	1.71	(0.52, 5.64)	20%	0.87	1.31	(0.28, 2.71)
Census Region									
New England	36%	1.00		1.00		32%	1.00	1.00	
Middle Atlantic	10%	0.20	(0.06, 0.73)*	0.16	(0.04, 0.62)**	23%	0.61	0.51	(0.21, 1.82)
East North Central	22%	0.50	(0.20, 1.25)	0.41	(0.16, 1.07)	24%	0.66	0.54	(0.26, 1.68)
West North Central	17%	0.38	(0.14, 1.02)	0.32	(0.11, 0.89)*	19%	0.49	0.38	(0.18, 1.33)

	Hospices with all 10 Patient-Centered Preferred Practices					Hospices with all 7 Family-Centered Preferred Practices				
	%	Unadjusted Odds Ratio	95% Confidence Interval	Adjusted Odds Ratio	95% Confidence Interval	%	Unadjusted Odds Ratio	95% Confidence Interval	Adjusted Odds Ratio	95% Confidence Interval
South Atlantic	23%	0.54	(0.22, 1.33)	0.39	(0.15, 1.02)	32%	1.01	(0.41, 2.48)	0.70	(0.27, 1.81)
East South Central	26%	0.63	(0.24, 1.64)	0.47	(0.17, 1.28)	35%	1.16	(0.45, 3.00)	0.88	(0.33, 2.36)
West South Central	21%	0.47	(0.19, 1.17)	0.35	(0.13, 0.92) *	21%	0.55	(0.22, 1.40)	0.44	(0.16, 1.15)
Mountain	12%	0.25	(0.08, 0.78) *	0.21	(0.06, 0.68) **	28%	0.82	(0.30, 2.24)	0.68	(0.24, 1.93)
Pacific	17%	0.38	(0.13, 1.08)	0.27	(0.09, 0.82) *	27%	0.78	(0.29, 2.12)	0.53	(0.19, 1.53)

* p<0.05;

** p<0.01