Got Volunteers? Association of Hospice Use of Volunteers With Bereaved Family Members’ Overall Rating of the Quality of End-of-Life Care

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Abstract

Context. Volunteers are a key component of hospice, and they are required by Medicare conditions of participation in the United States. Yet, little is known about the impact of volunteers in hospice.

Objectives. The goal of this study was to characterize whether bereaved family members in hospice programs with increased use of volunteer hours per patient day report higher overall satisfaction with hospice services.

Methods. A secondary analysis of the 2006 Family Evaluation of Hospice Care data repository with hospice organization data regarding the number of volunteer hours in direct patient care and the total number of patient days served. A multivariate model examined the association of institutional rate of bereaved family members stating end-of-life care was excellent with that of hospices’ rate of volunteer hours per patient day, controlling for other organizational characteristics.

Results. Three hundred five hospice programs (67% freestanding and 20.7% for profit) submitted 57,353 surveys in 2006 (54.2% female decedents and 47.4% with cancer). Hospice programs reported on average 0.71 hours per patient week (25th percentile: 0.245 hours per patient week; 75th percentile: 0.91 volunteer hours per patient week; and 99th percentile: 3.3 hours per patient week). Those hospice programs in the highest quartile of volunteer usage had higher overall satisfaction compared with those in the lowest-quartile usage of volunteers (75.8% reported excellent overall quality of care compared with 67.8% reporting excellent in the lowest quartile. After adjustment for hospice program characteristics, hospice programs in the highest quartile had highest overall rating of the quality of care (coefficient = 0.06, 95% confidence interval = 0.04, 0.09).

Conclusion. In this cross-sectional study, hospice programs with higher use of volunteers per patient day were associated with bereaved family member reports
that the hospice program quality of care was excellent. J Pain Symptom Manage 2010;39:502–506. © 2010 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

**Key Words**
Hospice, quality of care, volunteers, consumer perceptions, ratings of the quality of care, variation

**Introduction**
Volunteers have been fundamental in the hospice movement since its establishment. Local volunteer support was one of the resources that allowed each hospice to respond to the needs of its patients and community. In the 1980s, there was a concern that Medicare certification would alter the prominence of volunteers in hospice. Although the change in regulation and funding of hospices has shifted the proportions of professional staff and volunteers, the government has consistently required the use of volunteers in hospice care. As part of the Medicare conditions of participation, hospices are required to document their use of volunteers. The hours of volunteer work are required to be at least 5% of the total patient care hours of all hospice employees. Studies have examined the positive impact of volunteering on hospice volunteers, but no research has examined whether greater use of volunteers at the program level is associated with higher consumer satisfaction.

Our goal was to determine whether hospice programs that use more direct patient volunteer hours had higher ratings of the overall quality of care. This study used the National Hospice and Palliative Care Organization (NHPCO) National Data Set (NDS) and the 2006 Family Evaluation of Hospice Care (FEHC) data repository. The NDS collects organizational-level demographic, practice, and outcome data from hospice providers. The FEHC survey collects information from the families of deceased hospice patients about their perceptions of the quality of care provided to the patient while receiving hospice care.

**Methods**

**Study Population and Data Sources**
In this study, the sample comprised those hospice programs that submitted the number of direct patient volunteer hours and submitted at least 20 surveys of the FEHC survey in 2006. The NDS consists of data on organizational characteristics and processes of care from NHPCO hospice members who voluntarily submit their data on a yearly basis. The FEHC instrument is a 61-item survey to evaluate hospice services based on the conceptual model of patient-focused and family-centered medical care. Hospice programs usually mail the survey between one and three months after the death of the patient. They submit the data to a repository, with each participating program receiving a report regarding their quality of care and how their program compares with other hospice programs. Only a subset of hospice programs submitted both the NDS and the FEHC data.

The main outcome of interest was the bereaved family members’ overall perception of the quality of care: “Overall, how would you rate the care the patient received while under the care of hospice?” Respondents rate the quality of care using a 5-point scale with anchors of “excellent” and “poor.” Because of the skewed distribution of this scale, we characterized the proportion of each hospice’s responses that were “excellent.”

To standardize a hospice program’s use of volunteers, the number of direct patient volunteer hours was divided by the total number of patient days for 2006 submitted to the NDS. For simplicity, this rate is the number of direct volunteer hours reported per hospice patient week. Based on the distribution, this was operationalized into quartiles.

**Analysis**
Because only a subset of hospice programs submitted information for both volunteer data collection and FEHC results, the characteristics of participating and nonparticipating programs were examined with the Chi-
squared or the Kruskal-Wallis tests. A multivariate generalized linear model was used to examine the association of direct patient volunteer hours per patient week with the hospice programs’ reported rate that overall care was excellent. The unit of analysis was the hospice program with adjustment in the model for characteristics of the hospice program. These included the average daily census, direct-care staff full-time equivalents, and characteristics of the patients (percent receiving care in nursing home, diagnosis of cancer, hospice length of stay less than seven days) who received care in that hospice program. In the case of missing organizational data, the mean response was input with an examination of the model coefficients with and without imputation done. All analyses were conducted with Stata version 10 (StataCorp LP, College Station, TX).

Results

Sample Description

Only 305 of 941 (32%) hospice programs participating in the FEHC completed the NDS. These 305 hospice programs submitted 57,353 surveys in 2006. Programs without volunteer data contributed 75,878 surveys to the FEHC repository. Programs that participated in both data sets were more likely to be not for profit (78% vs. 60%, \( P < 0.001 \)), freestanding (67% vs. 54%, \( P < 0.001 \)), and larger (average daily census of <50 persons: 34% vs. 47%, \( P < 0.001 \)). They did not differ in diagnoses, hospice lengths of stay, and overall satisfaction. The response rate of programs reporting both data sources was slightly higher (47% vs. 44%, \( P = 0.02 \)).

Use of Direct Patient Volunteer Hours

Figure 1 describes the distribution of the direct patient volunteer hours per patient week. Hospice programs reported a mean of 0.71 hours per patient week, with a median of 0.54 hours per patient week (25th percentile: 0.245 hours per patient week; 75th percentile: 0.91 volunteer hours per patient week; and 99th percentile: 3.3 hours per patient week). Not-for-profit programs reported a higher average rate of volunteer use (0.83 hours per week compared with 0.27 hours per week, \( P = 0.001 \)).

Bereaved Family Member Rating of Excellent Overall Care

Those hospice programs in the lowest quartile of volunteer usage had lower overall ratings of the quality of care compared with those in the highest quartile of volunteer use (67.7% reported excellent overall quality of care in the lowest quartile compared with 75.8% in the highest quartile, \( P < 0.001 \)) (Table 1). After adjustment for potential organizational confounders and restricting the analyses to those hospice programs with 20 or more FEHC surveys \( (n = 279 \text{ hospices}) \), the programs in the highest quartile of direct patient volunteer hours had higher satisfaction compared with those in the lowest quartile of direct patient volunteer hours (\( \beta = 0.06 \), 95% confidence interval [CI] = 0.04, 0.09). These results indicate a difference of 6 points in the facility rate of bereaved family members reporting that the overall care was excellent. Similarly, those hospice programs in the third quartile (\( \beta = 0.06 \), 95% CI = 0.03, 0.09) and second quartile (\( \beta = 0.04 \), 95% CI = 0.01, 0.06) had higher satisfaction compared with those in the lowest quartile.

Discussion

Historically, hospices began as volunteer organizations in the United States. With the professionalization of hospice, an important concern was that the role of volunteers would diminish.\(^5\) We found variation in the number of direct volunteer hours per patient week.
among hospice programs and potential evidence for the importance of volunteers on bereaved family members’ rating of the quality of care. Previous research has not examined the association between the variation in direct patient volunteer hours and outcomes of hospice care. Bereaved family members in hospice programs that use a higher rate of direct volunteer patient care hours reported higher ratings of the quality of care for that hospice program. Our findings support the importance of hospice volunteers in achieving a high-quality hospice program.

The finding that bereaved family members in hospice programs in the upper quartile of volunteer hours per week reported higher satisfaction with care and that this finding persisted after controlling for differences in case mix, staffing, size of hospice, and other organizational characteristics, provides evidence of the importance of volunteers in hospice. This finding is consistent with hospice professional staff reports of the importance of volunteers.1,8 The results provide a benchmark for direct patient volunteer hours per week and the potential that increasing direct patient care volunteer staffing may improve overall satisfaction.

There are important limitations to acknowledge in interpreting these findings. This study is based on hospices that chose to participate in the NHPCO-sponsored FEHC and NDS data collection. This is a select subgroup with important differences. In addition, this cross-sectional study should not be interpreted to imply causality. It is possible that other unmeasured hospice characteristics influenced the reported bereaved family member satisfaction. Yet, this secondary analysis provides the best available information at this time on volunteer use in hospice, and the variation in direct patient care volunteer use is associated with higher consumer ratings of the quality of end-of-life care provided evidence of the importance of hospice volunteers. An important area of future research is a randomized controlled trial examining whether an increase in hospice volunteer use leads to improved patient and family outcomes.

**Conclusion**

The historical roots of hospice in the United States involved volunteers wanting to improve end-of-life care. Despite the increased professionalism of hospice in the United States, our research suggests that volunteers play an important role in hospice, and programs with a higher rate of direct patient hospice hours have higher overall satisfaction. Future research is needed. Yet, our study includes information from 305 hospices that can provide a benchmark for improving hospice care through the increased use of volunteer hours for direct patient care.

**References**


