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Nursing unit environment associated with provision of language services in pediatric hospices

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Abstract

Background—Provision of language services in pediatric hospice enables nurses to communicate effectively with patients who have limited English proficiency. Language barriers contribute to ethnic disparities in health care. While language service use corresponds with improved patient comprehension of illness and care options, we lack an understanding of how the nurse work environment affects the provision of these services.

Methods—Data were obtained from the 2007 National Home and Hospice Care Survey and included a study sample of 1,251 pediatric hospice agencies. Variable selection was guided by Structural Contingency Theory, which posits that organizational effectiveness is dependent upon how well an organization's structure relates to its context. Using multivariate logistic regression, we analyzed the extent to which nursing unit environment predicted provision of translation services and interpreter services.

Results—The majority of hospices provided translation services (74.9%) and interpreter services (87.1%). Four variables predicted translation services: registered nurse (RN) unit size, RN

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leadership, RN medical expertise, and for-profit status. RN medical expertise and having a safety climate within the hospice corresponded with provision of interpreter services.

Conclusions—Findings indicate that nursing unit environment predict provision of language services. Hospices with more specialized RNs and a stronger safety climate might include staff who are dedicated to best care provision, including language services. This study provides valuable data on the nurse work environment as a predictor of language services provision, which can better serve patients with limited English proficiency, and ultimately reduce ethnic disparities in end-of-life care for children and their families.

Keywords

pediatric hospice; language services; nurse work environment; hospice environment; structural contingency theory

Background

Pediatric hospice is a vital service that reduces symptoms and suffering for children who have a terminal illness [1]. Hospice refers to a “model for quality, compassionate care for people facing a life-limiting illness or injury” and is vital for children and families during end-stage illness [2]. Yet, in light of the changing United States landscape, hospice organizations may struggle to provide adequate services to children and families who lack proficiency in English. Nurses, as key personnel in hospice care, have identified that the facilitation of effective communication between the patient, family, and healthcare team, as a vital component of caring for this population [3].

Communication during hospice care is an important factor in alleviating fears and aiding in informed decision making, but it is also challenging due to the high emotions associated with end of life [4]. This challenge is made even greater when language barriers exist. With 24 million individuals in the United States speaking little to no English, provision of language services is essential [4,5]. In fact, Cambridge [6] suggests that language support services, despite the complexity of provision, are as fundamental to health care as clean sheets. Without language services, miscommunication leads to health access barriers, inaccurately conveyed information, reduced trust, and poorer follow-up [7–10]. In hospice, poor communication results in sub-optimal care with fewer patients dying at home, poorer symptom control, and greater emotional stress for patients and families [8]. Specific to pediatric hospice care, inadequate language services may impede treatment and patients’ or parents’ comprehension of the illness and options for management [11]. Thus, language barriers contribute to ethnic disparities in health care.

Though research in the area of language services is scarce, available evidence highlights the relevance of language services. The National Consensus Panel’s (NCP) Clinical Practice Guidelines for Quality Palliative Care recommend the following: “1) communicating with parents in a language they can understand, 2) use of interpreter services, 3) the availability of written materials in the parents’ native language, 4) referral to community resources, and 5) the implementation of a culturally relevant plan of care” [12]. The NCP guidelines assert

that hospice care programs should strive for cultural competence to ensure appropriate and relevant services.

Literature on provision of interpreter services indicates that use of interpreters who are considered “very good” or “excellent” corresponds with better patient satisfaction [13,14]. However, interpreter use highly varies by institution and is low overall [15]. Studies of provider-level predictors that impact this variation have produced inconclusive results. Hsieh and colleagues [16] found that females valued interpreter use more highly than their male counterparts, but that provider specialty had no significant impact on likelihood of interpreter use. Organizational age was statistically significant in a study by Gurman and Moran [17], although Hsieh et al. [16] found no association between organizational age and interpreter use.

The literature also reveals nurse-identified barriers to the use of language services. Several studies have found that nurses often rely on family members or friends accompanying patients, rather than trained medical interpreters, to serve as interpreters [15,18–19]. This finding may be explained by nursing time constraints, which are reportedly an impetus for using family and friends over professional interpreters [20]. On the other hand, investing time in communication was identified as a facilitating factor for using adaptive strategies to enhance nurse-patient communication.

Additionally, a lack of organizational commitment to language services, as evidenced by poor staff education regarding language resources, is common. In an exploratory qualitative study of system-level factors influencing interpreter use, the following were identified as important to clinicians: organizational investment in language technologies, commitment to improving language access for patients, and adequate staff training on accessing and working with interpreters [21]). Even when an organization invests in language materials and other resources, the content does not always reach patients, as one study found a significant difference between administrator-reported availability of language resources and staff members’ reported awareness and use of them [15]. Similarly, Regenstein and colleagues [22] found that patient need for language services was not associated with utilization.

The current literature regarding language service utilization is heavily weighted towards qualitative, descriptive studies identifying nurses’ perceptions, attitudes, and beliefs. Other studies confirm that there is a disconnect between availability of services and their use. The next step for research is a quantitative study to identify the effects of organizational variables that may serve as a guide for implementing change. The purpose of this study is to fill this research gap by examining the influence of the nursing unit environment on the provision of language services (i.e., translation of materials, interpreter services) in pediatric hospice organizations. The study provides critical data that will aid hospice organizations in better serving patients and their families who are limited or lacking in English proficiency.

Conceptual Model

In Figure 1, the model specifications for this study are displayed, which were guided by Structural Contingency Theory (SCT) [23]. The main assumption of SCT is that

organizational *effectiveness* depends upon how well an organization's *structure* relates to its *context*. The structure is defined as the administrative mechanisms used to coordinate and control work. For this study, structure was conceptualized as the nursing unit environment, which typically operates in the context of the hospice environment. SCT also emphasizes that there is no single best way to structure the work in an organization; however, different approaches to organizational structure may be equally effective. Although there are multiple definitions of organizational effectiveness in SCT, we conceptualized it as the degree to which hospices provide language services to patients and families. Thus, we hypothesized that the nursing unit environment (structure) would influence the provision of language services (effectiveness) in pediatric hospices, while controlling for the hospice environment (context).

Methods

Design and Sample

A retrospective, correlational design was used to analyze pediatric hospice data from the 2007 National Home and Hospice Care Survey (NHHCS). Our unit of analysis was the hospice organization. As a complex survey, NHHCS contains information on a nationally representative sample of hospice providers [24]. For this study, organizations were included if they were licensed hospice providers, pediatric hospice care providers, and Medicare/Medicaid certified. Organizations were excluded if they did not employ registered nurses (RN), were home health care organizations only, or had missing data. The final weighted sample was 1,251 hospices that provided pediatric hospice care services.

Data Source

Sponsored and conducted by the Centers for Disease Control and Prevention (CDC), the NHHCS is a nationwide survey that contains detailed agency-reported information on hospices and home health care providers. Agency directors or their designated were interviewed using agency and staffing questionnaires. Interviewers did not contact patients or families. Quality standards for the NHHCS are maintained by the CDC [25].

Measures

Language services—The NHHCS survey included agency-reported information on language services provided to patients and families. For this study, we created two binary dependent variables of provision of language services [26]. Our measure of *translation services* was whether or not the hospice provided patient-related materials translated into other languages. We operationalized *interpreter services* as whether the hospice provided interpreters for patients and families.

Nursing unit environment—Our independent variable of interest was the nursing unit environment and we created ten measures from the agency questionnaire [26–29]. *RN unit size* was calculated by the number of RNs per patient within each hospice. *Patient acuity* was operationalized as whether nurses cared for patients receiving continuous home care. *RN leadership* was whether or not a hospice nursing director held a nursing degree. The presence of advanced practice nurses (i.e., nurse practitioners or clinical nurse specialists) on

staff at the perinatal hospice unit was our measure of *RN support services*. We calculated *RN proportion* by taking the number of full time RN employees (FTE) and dividing by the total number of RN and licensed practical nursing FTEs. *RN education* was defined as an organization having baccalaureate degree as the highest RN degree employed. Any medical specialty certifications obtained determined the measurement of *RN expertise*. We created a proxy indicator for *safety climate* that measured whether or not influenza vaccines were encouraged among the hospice nurses. *Career climate* was defined as whether the hospice had a clinical ladder available. The *technology climate* was measured as a hospice nursing unit with available electronic medical records.

Hospice environment—Six measures of the hospice environment were created using data from the agency questionnaire [26–29]. *Affiliation* was a category measurement of the organizations' freestanding nature (e.g. hospital, home health, or long-term care based). *Organization size* was defined as small agency of <100 patients a day or large agency of >100 patients per day. The *organization age* was operationalized as the number of years a hospice was licensed. *Ownership* was measured as whether or not a hospice reported its profit status as for profit or non-profit/government. *Teaching status* was determined by whether the hospice was used as a teaching environment to train students. *Accreditation* was measured by whether or not the hospice was accredited by the Joint Commission for Accreditation of Healthcare Organizations.

Data Analysis

The primary question of interest was whether there was an association between the nursing unit environment and provision of language services in pediatric hospices, while controlling for the hospice environment. Data were weighted to reflect the population of hospice and home health organizations and to ensure adjustment for sampling bias for all analyses. Descriptive statistics were obtained on the characteristics of language service provision, nursing unit environment, and hospice environment. A multivariate logistic (logit) regression model was used to estimate the relationship between the provision of language services and the nursing unit environment because of the binary nature of the outcome variables. Individual regression analyses were conducted for each of the two indicators of language service provision. The analyses results are shown as adjusted odds ratios (OR) and 95% confidence intervals (CIs). Analyses were conducted using Stata 11.0 software (Statacorp LP, College Station Texas).

Results

Table 1 provides descriptive data on use of language services and organizational characteristics. A large majority of hospices reported providing translation services (74.9%) and/or interpreter services (87.1%). In regards to the nursing unit environment, RNs constituted over three-quarters of the staff, with one FTE registered nurse for every two patients. As is typical with hospice, a small percentage (17.4%) of patients were receiving continuous home care at the time of the study. A majority of hospices (68.0%) had a nurse leader, who was a nurse. Although less than 20% had RN support services, most had nurses with a bachelor's degree (92.2%) and medical certification (70.8%). Over 90% reported

having a climate of safety, which entailed encouraging nurses to obtain the influenza vaccination. Approximately 32.0% had a career climate and 58.4% a technology climate. Just over half (57.6%) of the hospices were freestanding and most were small sized (78.1%), had teaching status (79.9%), and were non-profit (74.3%). The average organization age was 16 years and almost a third (30.6%) were accredited.

Table 2 presents results of the logistic regression models. Several significant relationships emerged in the regression analysis. In regard to translation services, three nursing unit variables (RN unit size, RN leadership, and RN expertise) and one hospice environment variable (for-profit status) predicted the use of translation services. An increase in the ratio of FTE registered nurses per patient reduced the odds of distributing translation material by 39% (OR=0.61, $p<0.05$), while having an RN director reduced the odds by 60% (OR=0.40, $p<0.05$). Employment of medically certified registered nurses more than doubled the odds of using translation materials (OR=2.46, $p<0.05$), while having for-profit status quadrupled the odds (OR=4.04, $p<0.05$).

Logistic regression analysis of predictors for interpreter services indicated that RN expertise and a safety climate were both positive predictors. Having RNs with medical expertise increased the odds by more than six times that interpreter services would be available (OR=6.27, $p<0.01$) and safety climate (via the proxy variable of encouraging influenza vaccination) increased odds by 7.89 (OR=7.89, $p<0.05$). The remaining variables did not significantly correspond with availability of interpreter services.

Discussion

This study was one of the first to use national hospice data to investigate the relationship between the nursing unit environment and provision of language services in pediatric hospices, while controlling for the hospice environment. We found patterns of language service provision that have been previously established in the literature [26]. Findings revealed that RN unit size, RN leadership, and RN expertise were related to translation services, while RN expertise and safety climate were related to interpreter services.

The analysis considering nursing unit environment related to provision of language services demonstrated that RN leadership was negatively associated with translation services. This finding was contrary to expectations. We anticipated that nursing hospice leadership would have a better understanding of what the clinical team of nurses, social workers, and physicians needed to provide patient-focused, culturally-congruent hospice care such as translated materials, compared to those leaders without a nursing degree. Nurses in leadership positions within hospices are often senior practitioners with experience providing direct patient care to hospice patients. They know the trenches. And yet, in our study we found that when the hospice leader was a nurse that hospices were less likely to provide translated materials. One possible explanation is that organizations that employ nurse leaders may operate in a corporate structure where decisions about the translation of materials resides in the corporate communications department [30]. Alternatively, nurse leaders may not have the business acumen to ensure the communications needs of patients and families

are sufficiently met by the agency [31]. Additional research exploring the corporate culture and experience of nurse leaders with language services is clearly warranted.

Another interesting finding was that when pediatric hospices employed RNs with medical certification expertise, they were more likely to provide translation and interpreter services. This finding suggests that nurses who seek continuing education to become certified may be focused on providing the best care and ensuring that communication is culturally-congruent per the NCP clinical practice guidelines [12]. These nurses care for pediatric patients and their families at one of the most critical junctures of the care trajectory [32]. Their expertise in caring for hospice pediatric patients may also translate to ensuring that their organizations have the resources to communicate with all patients and their families, regardless of language. Additionally, organizations that support their staff in obtaining medical certification to advance their clinical practice may have a culture of treating all resources including human resources and communications tools as critical to the patient experience at end of life. Therefore, creating a supportive corporate culture that promotes excellence in resources development may improve the quality of care delivered to children and their families. Although our access to individual-level RN demographic data was limited for this study, future studies should explore the role of RN bilingual status or RN racial and ethnic diversity in meeting the language needs of underrepresented ethnic groups.

Our study found that a safety climate where hospices promote influenza vaccinations among the staff was related to the provision of interpreter services. In the hospice care environment, patients are often immunocompromised because of their illness, treatments, or medications. In addition, caregivers are physically and emotionally drained from the experience of caring for a dying child [33]. Our findings suggest that organizations with a safety climate may care for the details of serving patients and their families, who are very vulnerable to common health conditions such as influenza. Providing that extra level of care may also include ensuring that someone on the staff can speak directly with the child and family [34]. This attention to detail provides that goals of care are mutually understood and agreed-upon, clinical signs of dying are communicated, and action plans are discussed as the child's condition deteriorates [35]. Further research might continue to examine this relationship among other patient populations in hospice care.

This study has a number of limitations. First, our measure of language services lacked specificity. The survey data included translation and interpreter services available to all patients and not just pediatric patients. Even though we were able to identify pediatric hospices, we were not able to report which language services were used by children and their families. Second, the NHHCS data did not include information on the types of languages included in the translation and interpreter services. Thus, we were unable to report on the ethnic groups most affected by these services. Third, the 2007 NHHCS was the most recent data available from the CDC. This data might be aged given the changes in the hospice industry [36]; however, the breadth and depth of the hospice information in the NHHCS enabled us to build a fully specified model and to explore a question that is as relevant in 2007 as it is today. Finally, because the data were cross-sectional, no causal conclusions can be drawn.

Despite these limitations, this study contributes to our understanding of language services in pediatric hospices. Knowledge of the unique role of the nursing unit environment in promoting the provision of translation and interpreter services in pediatric hospice care is essential for advancing culturally-congruent care at end of life for children and their families, ultimately reducing ethnic disparities in health care. This study showed that RN expertise and a safety climate were critical to the provision of language services. With this knowledge, hospice administrators can secure the resources needed to improve the nursing unit environment and ultimately improve care for those of all ethnicities.

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Figure 1.
Conceptual Model

Table 1Sample characteristics, weighted ($N=1251$)

Variables	Number	Percentage/Mean (SE)
Language Services		
Translation Services	937	74.90%
Interpreter Services	1090	87.13%
Nursing Unit Environment		
RN Unit Size	1251	0.52(0.61)
Patient Acuity	217	17.35%
RN Leadership	851	68.03%
RN Support Services	248	19.90%
RN Proportion	1251	0.82(0.02)
RN Education	1153	92.17%
RN Expertise	885	70.82%
Safety Climate	1148	91.77%
Career Climate	400	32.05%
Technology Climate	730	58.43%
Hospice Environment		
Affiliation		
Freestanding	720	57.63%
Non-freestanding	531	42.37%
Organization Size		
Small	978	78.10%
Large	273	21.90%
Organization Age	1251	16.39(1.22)
Ownership		
For-profit	322	25.74%
Non-profit or government	929	74.26%
Teaching Status	999	79.86%
Accreditation	383	30.62%

Note: SE, Standard Error; RN, Register Nurse

Table 2

Regression Results weighted, ($N=1251$)

Variables	Translation Services		Interpreter Services	
	OR	95% CI	OR	95% CI
Nursing Unit Environment				
RN Unit Size	0.61	(0.37–1.00) *	0.73	(0.50–1.08)
Patient Acuity	0.75	(0.29–1.94)	2.12	(0.60–7.49)
RN Leadership	0.40	(0.17–0.93) *	0.71	(0.20–2.48)
RN Support Services	0.83	(0.33–2.07)	0.69	(0.16–3.03)
RN Proportion	0.98	(0.07–13.00)	4.86	(0.24–97.28)
RN Education	2.66	(0.78–9.11)	0.68	(0.17–2.70)
RN Expertise	2.46	(1.02–5.91) *	6.27	(2.10–18.73) **
Safety Climate	2.11	(0.55–8.16)	7.89	(1.88–33.15) *
Career Climate	1.56	(0.66–3.65)	0.71	(0.24–2.11)
Technology Climate	2.15	(0.96–4.83)	2.05	(0.78–5.39)
Hospice Environment				
Freestanding	1.63	(0.68–3.94)	2.33	(0.77–7.06)
Large Size	0.47	(0.18–1.20)	0.80	(0.19–3.39)
Organization Age	1.04	(0.99–1.10)	1.01	(0.93–1.10)
For-Profit	4.04	(1.19–13.75) *	2.32	(0.29–18.66)
Teaching Status	1.71	(0.41–7.13)	0.93	(0.27–3.24)
Accreditation	0.86	(0.36–2.03)	1.99	(0.61–7.49)

* $p < 0.05$,** $p < 0.01$,*** $p < 0.001$

Note: OR, odds ratio; CI, Confidence Intervals; RN, Register Nurse.