Original Article

Organization of Nursing and Quality of Care for Veterans at the End of Life

Ann Kutney-Lee, PhD, RN, Caitlin W. Brennan, PhD, APRN, Mark Meterko, PhD, and Mary Ersek, PhD, RN

University of Pennsylvania School of Nursing (A.K.-L., M.E.) and Philadelphia VA Medical Center (A.K.-L., M.E.), Philadelphia, Pennsylvania; National Institutes of Health Clinical Center (C.W.B.), Bethesda, Maryland; and VA Boston Healthcare System (M.M.) and Boston University School of Public Health (M.M.), Boston, Massachusetts, USA

Abstract

Context. The Veterans Health Administration (VA) has improved the quality of end-of-life (EOL) care over the past several years. Several structural and process variables are associated with better outcomes. Little is known, however, about the relationship between the organization of nursing care and EOL outcomes.

Objectives. To examine the association between the organization of nursing care, including the nurse work environment and nurse staffing levels, and quality of EOL care in VA acute care facilities.

Methods. Secondary analysis of linked data from the Bereaved Family Survey (BFS), electronic medical record, administrative data, and the VA Nursing Outcomes Database. The sample included 4908 veterans who died in one of 116 VA acute care facilities nationally between October 2010 and September 2011. Unadjusted and adjusted generalized estimating equations were used to examine associations between nursing and BFS outcomes.

Results. BFS respondents were 17% more likely to give an excellent overall rating of the quality of EOL care received by the veteran in facilities with better nurse work environments ($P \leq 0.05$). The nurse work environment also was a significant predictor of providers listening to concerns and providing desired treatments. Nurse staffing was significantly associated with an excellent overall rating, alerting of the family before death, attention to personal care needs, and the provision of emotional support after the patient's death.

Conclusion. Improvement of the nurse work environment and nurse staffing in VA acute care facilities may result in enhanced quality of care received by hospitalized veterans at the EOL. J Pain Symptom Manage 2015;49:570–577.

Key Words

Nursing care, palliative care, veterans, quality of care, end-of-life care, Department of Veterans Affairs

Introduction

In 1997, the Institute of Medicine released a seminal report calling for the improvement of care at the end of life (EOL).[1] The Veterans Health Administration (VA)—the largest integrated health system in the world—responded to the Institute of Medicine recommendations and embarked on a coordinated plan to increase access to EOL services through the installation of palliative care consultation teams and specialized hospice/palliative care units, as well as the provision of interprofessional training. Systematic evaluation of these enhancements has demonstrated a consistent annual increase in families' overall ratings of EOL care in VA facilities and significant associations among several palliative care practices and higher ratings of care.[2–7] However, the identification of broader

Address correspondence to: Ann Kutney-Lee, PhD, RN, University of Pennsylvania School of Nursing, 418 Curie Boulevard, Claire M. Fagin Hall, Room 385, Philadelphia, PA 19104, USA. E-mail: akutney@nursing.upenn.edu

Accepted for publication: July 6, 2014.

0885-3924/$ - see front matter
http://dx.doi.org/10.1016/j.jpainsymman.2014.07.002

organizational structures and processes that can enhance EOL care is also an important step in quality improvement efforts.

Previous research indicates that the organization of nursing care, including the work environment and nurse staffing levels, is associated with patient outcomes,[8,9] including satisfaction with care—an increasingly important outcome and performance measure. In non-VA acute care settings, higher nurse-to-patient ratios and work environments that better support nurses in their practice have been associated with higher scores on the Hospital Consumer Assessment of Healthcare and Providers Survey, which captures patients' evaluations of care.[10–12] However, no studies have examined the association between nursing-related factors and satisfaction with EOL care, where quality typically is evaluated by bereaved family members rather than patients.[4,13–16] The VA has used the Bereaved Family Survey (BFS), an instrument endorsed by the National Quality Forum (NQF), for this purpose since 2008.

The purpose of this nationwide study of VA acute care facilities was to explore the relationship between the nurse work environment, registered nurse (RN) staffing levels, and family perceptions of the care received by veterans at the EOL. The Integrated Framework for a Systems Approach to Nurse Staffing Research[17] was used to conceptually guide the study. This framework includes Donabedian's structure-process-outcome model,[18] with an overlay of four additional factors (patient, nurse, unit, and system) and was used to guide the selection of study variables.

Methods

Data Sources and Procedures

This study was a secondary analysis of linked cross-sectional data from the BFS, electronic medical records, administrative data, and the VA Nursing Outcomes Database (VANOD) for VA acute care facilities in fiscal year (FY) 2011 (October 2010–September 2011).

BFS data were collected as part of a national VA quality improvement program called PROMISE (Performance Reporting and Outcomes Measurement to Improve the Standard of Care at End-of-life). The BFS provides data about family perceptions of quality of care received by veterans who died in VA facilities. The BFS was derived from the Family Assessment of Treatment at End-of-Life (FATE)-Short Form[13] and has demonstrated strong psychometric properties.[6,13,19] Four weeks after the veteran's death, trained staff placed a phone call to the next of kin to obtain informed consent and administer the BFS. PROMISE staff also reviewed the veteran's chart to collect demographic data and information about EOL-related processes of care, such as receipt of a palliative care consult. A detailed description of data collection procedures is available on the PROMISE Center Web site (http://www.cherp.research.va.gov/PROMISE/PROMISE_Methods.asp).

Of 19,921 eligible deaths in FY 2011, BFS responses were obtained for 11,888 deceased veterans representing 145 VA acute care facilities (60% response rate). A study to evaluate the effect of nonresponse on the validity of the BFS suggested that the effect of nonresponse bias was minimal.[20] For the present study, we limited our sample to veterans who died in a medical-surgical unit or intensive care unit (ICU). About half (48%) of BFS responses in FY 2011 met these criteria. Further inclusion criteria were that the patient was cared for in only one VA facility during the last month of life, and complete nursing and administrative data were available for the facility.

The VANOD was used to access work environment, nurse staffing, and structural facility variables. The VANOD is a data repository that includes measures of the nurse work environment obtained from the RN Satisfaction Survey (51% response rate in FY 2011) and nurse staffing data from the VA Decision Support System. For our purposes, we included environment and staffing measures derived only from nurses working in direct patient care.

Data sets were merged using a unique facility identification number. The final sample included 4908 veterans who died in one of 116 VA acute care facilities nationally in FY 2011. All BFS and chart review data were deidentified by PROMISE Center staff and saved in a secure folder on a VA server before access by the researchers. The study was approved by the Institutional Review Boards of the Philadelphia VA Medical Center and the VA Boston Healthcare System.

Study Variables

BFS Outcomes. Our primary outcome of interest was a global item on the BFS that asked respondents to rate the overall care received by the veteran in the last month of life, using a five-point Likert scale ranging from poor to excellent. Consistent with past BFS studies, the outcome was dichotomized as excellent vs. all other responses.[2,5,7] BFS respondents also were asked to apply a four-point Likert scale of "always," "usually," "sometimes," or "never" to a set of 11 items related to specific aspects of care at the EOL, such as provision of requested treatment, and pain management. Responses for these items were dichotomized for the analysis as "always" vs. "usually/sometimes/never."[2,5,7]

Patient Characteristics. Data collected included patient age (in decades), race (white/nonwhite/unknown), gender, the presence/absence of a set of 10 medical conditions (e.g., kidney disease, cancer), and relationship of the BFS respondent to the veteran (spouse/