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## **Predictors of Length of Stay at Jefferson Hospice**

**Alexander D. Fuld, MS\***  
**Timothy P. Cousounis, MHA\*\***  
**James Plumb, MD\***

\* Thomas Jefferson University

\*\* Jefferson Home Care

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## Predictors of Length of Stay at Jefferson Hospice

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Hospice is a complete program of healthcare and support for people whose illness no longer responds to curative medical treatment. While the benefits of hospice care are well known, studies show a national problem in hospice care: patients are often referred to hospice late in their course of illness resulting in a short length of stay.<sup>1,2</sup> Length of stay (LOS) is an important measure for hospice care because it represents the time available to provide appropriate and needed services near the end-of-life.

A longer LOS provides the patient and his or her family with increased access to support services that provide a greater period of comfort and closure at the end of life. These services include patient and family counseling, symptom management, provision of a safe environment, and development of rapport for future bereavement counseling. To compassionately provide these services, time is needed to develop a sense of trust and to open lines of communication with the family. A shorter LOS may compromise the continuity and quality of these services. It may also put financial strain on the hospice program because hospice care is reimbursed on a per diem basis.<sup>1,2</sup>

Because LOS is a key factor in providing quality service, a study at Jefferson Hospice was performed to document the length of stay of its patients. The goal of the study was to identify groups of patients at high risk for short lengths of stay in order to develop strategies to improve early access to hospice care for these patients. While there is no generally accepted standard for LOS, Jefferson Hospice decided, on the basis of experience, that a LOS of more than seven days was the minimum needed to provide appropriate services for patients and their families.

To identify factors that predicted a LOS less than or equal to seven days, a retrospective chart review was conducted of 174 hospice benefit patients who died between January 1, 1999 and May 10, 1999. Several patient characteristics were examined. The mean and median LOS for Jefferson Hospice patients studied was 29.7 days and 9 days, respectively; in contrast, the National Hospice Organization (NHO) Census reported figures of 51.3 days and 25 days, respectively. Of the Jefferson Hospice patients, 41% had a LOS less than or equal to seven days, 70% had a primary diagnosis of cancer and 35% had a referring physician who was an oncologist. Sixty percent of these patients had an advance directive at the time of admission.

Using a logistic regression model, the study highlighted significant predictors of a length of stay of seven days or less. Patients with a cancer diagnosis, a referral by an oncologist, or a recent hospital admission (in the past 14 days) were more likely to have a LOS of seven days or less. Patients with a minority status, low Karnofsky Functional Assessment score (indicating a severely disabled status), or who lived in areas outside of Philadelphia were also more likely to have a short length of stay. The model controlled for demographic characteristics including age, gender, and race. A cancer diagnosis and referral by an oncologist were two separate variables because some cancer patients were monitored and referred by a provider other than an oncologist. Contrary to the investigators' initial thoughts, an advance directive at the time of admission, marital status, type of insurance coverage, disease severity and presence of pain were not significant predictors of LOS.

While care at the end of life is complex and involves many factors, measuring LOS is an initial step in understanding the outcomes of hospice care. Recent hospitalizations, physician referral patterns, primary disease diagnoses, and minority status were predictive of a LOS of seven days or less at Jefferson Hospice. Specific initiatives have been introduced to address the findings in this study and increase the LOS. A series of educational efforts to help clinicians construct effective strategies for end-of-life care have been initiated through the newly established Center for Palliative Care. Palliative care managers are based at JHS acute care hospitals to provide immediate response for evaluation and assessment of patients with advanced disease. Additionally, care protocols to standardize communications among patients, families, physicians, and palliative care team members have been developed. Establishing better continuity of care for dying patients will help Jefferson Hospice in its efforts to improve patient care at the end of life.

For more information contact Tim Cousounis at 610-658-7164.

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## About the Authors

Alexander D. Fuld, MS, is a member of Jefferson Medical College's Class of 2002. Timothy P. Cousounis, MHA, is Vice President of Jefferson HomeCare. James Plumb, MD, is the Director of the Center for Palliative Care in the Department of Family Medicine at Thomas Jefferson University.