## Hospice Use, Hospitalization, and Medicare Spending at the End of Life

JOURNALS OF GERONTOLOGY SERIES B I POLICY BRIEF I RACHAEL ZUCKERMAN, MPH<sup>26</sup>, SALLY STEARNS, PHD<sup>3</sup>, AND STEVEN SHEINGOLD, PHD<sup>3</sup> I OF-FICE OF HEALTH POLICY, OFFICE OF THE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION, UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES, 200 INDEPENDENCE AVE, SW, WASHINGTON, DISTRICT OF COLUMBIA, 20201<sup>3</sup>, DEPARTMENT OF HEALTH POLICY AND MANAGEMENT, JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH, BALTIMORE, MARYLAND<sup>2</sup>, DEPARTMENT OF HEALTH POLICY AND MANAGEMENT, THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, CHAPEL HILL, NORTH CAROLINA<sup>4</sup>

## **Research Problem**

Does hospital use and Medicare spending prior to a patient's death differ by use of hospice at death, length of hospice care, or nursing home residency?

The Medicare hospice benefit was passed into law in 1982, with the goal of improving the quality of end-of-life care by providing palliative and support services for terminally ill patients during the final 6 months of life. Initially, hospices primarily served Medicare beneficiaries with cancer, but by 2008, noncancer diagnoses accounted for 69% of all hospice users. In recent years, more older adults started using the benefit, increasing from 23% of Medicare decedents in 2000 to 44% in 2010. During the same time period, the proportion of decedents with long hospice stays has grown; during the same period, the mean hospice stay increased from 54 to 86 days, although the median hospice stay remained relatively constant at approximately 18 days.

## Data and Methods

We compared inpatient hospital days and Medicare spending during the last 6 months of life using hospice versus propensity matched nonhospice beneficiaries, who died in 2010, were enrolled in fee-for-service Medicare throughout the last 2 years of life and were in at least one of five disease groups (Alzheimer's disease or related dementias [ADRD], heart failure, stroke, lung cancer, or colorectal cancer). Comparisons were based on length of hospice use and whether the decedent was in a nursing home during the 7th month prior to death. We regressed a categorical measure of hospice days on outcomes, controlling for observed patient characteristics.

## **Policy Implications**

Our results support current hospice payment reform and could be informative to future reform efforts. In 2016, the Centers for Medicare & Medicaid Services (CMS) began paying hospices a lower rate after the first 60 days in hospice, consistent with our findings that very long hospice stays do not have reduced total spending. However, most hospice users enrolled less than a month before death, and it is likely that many would have been suitable candidates for either palliative care or hospice care earlier. Thus, future policies that encourage earlier discussions and timely initiation of hospice care have the potential to increase the magnitude of the successes observed in our study while maintaining program goals.

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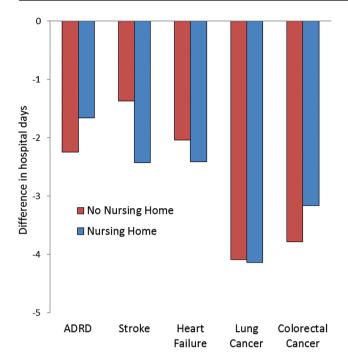
- (a) Overall, the Medicare hospice benefit is successful in avoiding hospital care at the end of life: hospice use over 2 weeks was associated with decreased hospital days (1–5 days, with greater decreases for longer hospice use) for all beneficiaries.
- (b) For most beneficiaries not in nursing homes, total Medicare spending was lower with hospice use, with the greatest reductions (\$900-\$5,000) with 31-90 days in hospice. However, beneficiaries with Alzheimer's disease had increased spending for any length of hospice use (Figure 2).
- (c) For beneficiaries in nursing homes, expenditures increased with hospice use for Alzheimer's disease, stroke, and heart failure; only beneficiaries with lung cancer had decreased spending (\$3,500). (Figure 2).

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**Figure 1.** Estimated difference in hospital use during the last 6 months of life by nursing home use in the 7th month prior to death for hospice decedents as compared with nonhospice decedents (adjusted regression coefficients for hospice use). All estimates are statistically significant as compared with nonhospice decedents. ADRD = Alzheimer's disease and related dementia.

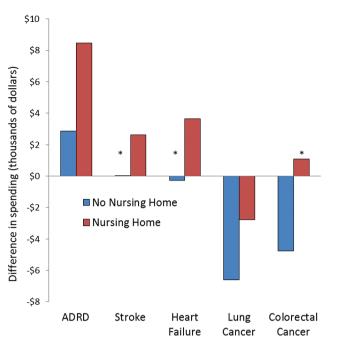


Figure 2. Estimated difference in total Medicare spending during the last 6 months of life by NH use in the 7th month prior to death for hospice decedents as compared with nonhospice decedents (adjusted regression coefficients for hospice use). \*Not statistically significant as compared with nonhospice decedents. ADRD - Alzheimer's disease and related dementia.