

## Racial and Ethnic Differences in Hospice Care

Givens JL, Tjia J, Zhou C, et al. Racial and ethnic differences in hospice use among patients with heart failure. *Arch Intern Med* 2010;170:427–32.

### Study Overview

**Objective.** To evaluate racial and ethnic differences in patients receiving hospice care for heart failure.

**Design.** Cohort study.

**Setting and participants.** The study used a national sample of Medicare beneficiaries oversampled for nonwhite patients. From this sample, 1 million beneficiaries age 66 years or older were selected from the Medicare denominator file for 2001, with deliberate oversampling of beneficiaries who died in 2001 and racial and ethnic minorities. Files were merged with the National Death Index from 2001 to verify date of death. Inclusion criteria for beneficiaries included complete claims data from 2000 and 2001, residence in the United States, not enrolled in a Medicare managed care organization, and not entitled to the Medicare end-stage renal disease benefit. Among the 603,128 beneficiaries meeting these criteria, the study sample was limited to beneficiaries with a diagnosis of heart failure (ICD-9-CM codes) who had at least 1 physician or hospital encounter and were not enrolled in hospice care during 2000. On the basis of this sampling, 98,258 individuals were included, representing a weighted population of approximately 2.7 million.

**Main outcome measures.** The main outcome variable was entry into a hospice with an admitting diagnosis of heart failure during 2001. Race and ethnicity were determined using Medicare denominator file categories. The morbidity of participants was measured using diagnostic cost group (DCG) scores. Heart failure severity was characterized using the Medicare inpatient file from 2000 to calculate the number of emergency department (ED) visits and hospitalizations and the number of days spent in an intensive care unit (ICU) or coronary care unit (CCU). A geography-based socioeconomic status indicator was defined based on median income of zip code of residence. A marker for a state's Medicaid buy-in of the Part B benefit was also used as an indicator of low income. Competing hospice diagnoses were categorized as cancer, dementia, stroke, and chronic obstructive pulmonary disease. A geographic variable was created to measure urbanicity, categorized as metropolitan area  $\geq$  1 million,

metropolitan area  $<$  1 million, nonmetropolitan and unknown. Another geographic variable was created to measure local hospice density, based on the percentage of decedents in that health service area that used hospice.

**Main results.** The weighted study population of 98,258 Medicare beneficiaries was 88.3% white, 8.5% black, 1.4% Hispanic, and 1.8% other. Black and Hispanic beneficiaries were younger, had lower incomes, and were more likely to have Medicaid buy-in. Beneficiaries who were black, Hispanic and other races and ethnicities were more likely to live in large metropolitan areas. Hispanics had the highest mean DCG score, highest number of hospitalizations and ED visits, and longest stays in the ICU and CCU.

Overall, only 3.9% of beneficiaries used hospice for any diagnosis in 2001; of these, 18.2% used hospice because of heart failure. Nonwhite beneficiaries used hospice for heart failure less than white beneficiaries. After adjusting for sociodemographics, urbanicity, comorbidities, DCG score, use of medical services, and local hospice density, hospice use remained lowest for Hispanics (adjusted odds ratio [OR], 0.49 [95% confidence interval {CI}, 0.37–0.66] compared with whites. Blacks (adjusted OR, 0.59 [95% CI, 0.47–0.73]) and other nonwhite beneficiaries (adjusted OR, 0.64 [95% CI, 0.52–0.80]) were also less likely to use hospice.

**Conclusion.** Among a national cohort of patients with heart failure, racial and ethnic minorities are less likely to use hospice than whites.

### Commentary

This well-designed cohort study using national Medicare data found striking racial and ethnic differences in hospice use: blacks had a 41% lower odds and Hispanics had a 51% lower odds of receiving hospice care than white patients after adjustment for numerous factors including local hospice availability and geographic urbanicity. These findings are consistent with multiple previous analyses showing lower rates of hospice use among minorities [1–3].

Why are black and Hispanic patients less likely to use hospice than whites? Geographic variation in hospice availability has been well-documented and is associated with

hospice use [4]. Minorities may be more likely to live in areas with fewer hospice services. However, lower rates of hospice use among blacks and Hispanics persisted in this study after adjustment for 2 geographic variables, suggesting that other factors are at play.

Cultural differences in preferences for end-of-life care have also been studied. Black and Hispanic patients may be more likely to prefer aggressive interventions at the end of life, more likely to prefer to die in the hospital, and more likely to have unfavorable beliefs about hospice care [5–7]. The extent to which cultural values and preferences impact rates of hospice utilization is not known [8]. Furthermore, the reasons underlying cultural differences in end-of-life treatment preferences are poorly understood, and may partly reflect mistrust in physicians and the medical system among racial and ethnic minorities [9], the failure to inform minority patients about available services [10], or a lack of cultural competence among hospice staff [11].

This study by Givens et al highlights the need for further research to understand racial and ethnic differences in end-of-life care utilization. What role do patient and family preferences play, and to what extent are such preferences based on accurate information and understanding? How does physician behavior affect patient and family preferences? Is the cultural sensitivity of hospice facilities and staff an important consideration in patient and family decision making about hospice? Understanding the reasons behind racial and ethnic differences in hospice utilization will inform the design and implementation of interventions to improve the quality and accessibility of hospice services for minority patients.

This study's findings should be considered in light of the limitations imposed by the Medicare dataset used. First, the dataset does not include clinical measures of heart failure severity, such as ejection fraction, which may vary by race and ethnicity. The authors adjusted instead for ED visits, hospitalizations, and ICU and CCU use as proxies for disease severity. Second, Medicare's race and ethnicity data performs less well for Asians and American Indian/Alaskan Native beneficiaries, making the "other" race and ethnicity category more difficult to interpret. Finally, by including only Medicare beneficiaries, the study was not able to examine hospice use among enrollees from health maintenance organizations.

## Applications for Clinical Practice

Large racial and ethnic differences in hospice use exist among patients with heart failure, and lower rates of hospice use among black and Hispanic patients persist after adjustment for demographic factors, disease severity, and hospice availability. This study points to the urgent need for further research to understand patient, family, physician, and system-level factors that may contribute to these observed differences.

—Review by Yael Schenker, MD

## References

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