

Racial and Ethnic Differences in Heart Failure Readmissions and Mortality in a Large Municipal Healthcare System

Matthew S. Durstenfeld, MD,^a Olugbenga Ogedegbe, MD, MS, MPH,^{a,b,c} Stuart D. Katz, MD,^a Hannah Park, MS,^b Saul Blecker, MD, MHS^{a,b}

ABSTRACT

OBJECTIVES This study sought to determine whether racial and ethnic differences exist among patients with similar access to care. We examined outcomes after heart failure hospitalization within a large municipal health system.

BACKGROUND Racial and ethnic disparities in heart failure outcomes are present in administrative data, and one explanation is differential access to care.

METHODS We performed a retrospective cohort study of 8,532 hospitalizations of adults with heart failure at 11 hospitals in New York City from 2007 to 2010. Primary exposure was ethnicity and race, and outcomes were 30- and 90-day readmission and 30-day and 1-year mortality rates. Generalized estimating equations were used to test for associations between ethnicity and race and outcomes with covariate adjustment.

RESULTS Of the number of hospitalizations included, 4,305 (51%) were for blacks, 2,449 (29%) were for Hispanics, 1,494 (18%) were for whites, and 284 (3%) were for Asians. Compared to whites, blacks and Asians had lower 1-year mortality, with adjusted odds ratios (aORs) of 0.75 (95% confidence interval [CI]: 0.59 to 0.94) and 0.57 (95% CI: 0.38 to 0.85), respectively, and rates for Hispanics were not significantly different (aOR: 0.81; 95% CI: 0.64 to 1.03). Hispanics had higher odds of readmission than whites (aOR: 1.27; 95% CI: 1.03 to 1.57) at 30 (aOR: 1.40; 95% CI: 1.15 to 1.70) and 90 days. Blacks had higher odds of readmission than whites at 90 days (aOR: 1.21; 95% CI: 1.01 to 1.47).

CONCLUSIONS Racial and ethnic differences in outcomes after heart failure hospitalization were present within a large municipal health system. Access to a municipal health system may not be sufficient to eliminate disparities in heart failure outcomes. (J Am Coll Cardiol HF 2016;■:■-■) © 2016 by the American College of Cardiology Foundation.

Racial and ethnic health care disparities are a significant problem in the United States, and eliminating disparities is a public health priority (1). Racial and ethnic disparities in cardiovascular disease care and outcomes persisted after controlling for socioeconomic status, comorbidities, and disease severity (2-4). Disparities are common in heart failure, a condition that affects 6 million Americans and remains a frequent cause of hospitalization and mortality (5,6).

Epidemiological studies conducted from the 1970s to the 1980s suggest that black patients with heart failure have rates of mortality and hospitalization similar to or higher than those of white patients (7-9). In more recent administrative and registry data, black and Hispanic patients are more likely than white patients to be hospitalized for heart failure but have lower short-term mortality (10-15). Of these recent studies, only 2 included non-Medicare patients (10,14), and only 1 study adjusted for both

From the ^aDepartment of Medicine, New York University School of Medicine, New York, New York; ^bDepartment of Population Health, New York University School of Medicine, New York, New York; and the ^cGlobal Institute of Public Health, New York University, New York, New York. This study was supported by National Center for Advancing Translational Sciences grant KL2 TR000053 and Agency for Healthcare Research and Quality grant K08 HS23683. Dr. Ogedegbe is supported by U.S. National Institutes of Health/National Heart, Lung, and Blood Institute grant K24HL111315. Dr. Katz is an advisory board and speakers bureau member for Amgen and Novartis; and has received research support from AstraZeneca and Janssen. All other authors have reported that they have no relationships relevant to the contents of this paper to disclose.

Manuscript received December 28, 2015; revised manuscript received May 9, 2016, accepted May 12, 2016.

**ABBREVIATIONS
AND ACRONYMS****aOR** = adjusted odds ratios**GEE** = generalized estimating equations**HHC** = Health and Hospitals Corporation**SPARCS** = New York Statewide Planning and Research Cooperative System

socioeconomic and clinical variables (13). Hospitalizations and short-term mortality are decreasing overall for Medicare patients with heart failure, but disparities between outcomes in black patients and those in white patients are widening (15). Although Asian Americans with heart failure are less studied, they have been found to have lower rates of mortality than whites and rates of hospitalization similar to those of whites (10,13,14).

Despite evidence that racial and ethnic disparities persist after controlling for socioeconomic status, it is not clear whether disparities arise at the level of patients, health care providers, or health systems (1,16,17).

Differences in access and quality of care may partially explain the discordance between hospitalization and mortality rates among minority patients and those of white patients (10,18). Black and Hispanic patients tend to receive care at underperforming hospitals (19,20) and have worse access to outpatient care (21). Hospitals with higher proportions of black or Hispanic Medicare patients have higher risk-adjusted heart failure readmission rates and greater racial and ethnic disparities than hospitals that serve primarily white patients (22,23). The extent to which racial and ethnic differences exist among patients with heart failure within an urban healthcare system is unknown. The purpose of this study was to determine the magnitude of racial and ethnic differences in outcomes after heart failure hospitalization among patients admitted to the municipal health system in New York City. We studied this diverse population with similar access to care to determine whether access to care eliminates racial and ethnic disparities in outcomes.

METHODS

We studied outcomes after heart failure acute care hospitalization stratified by racial and ethnic groups in a retrospective cohort of adults hospitalized between 2007 and 2010 within New York City Health and Hospital Corporation (HHC), the largest municipal health care system in the United States. HHC includes 11 acute care hospitals, 4 skilled nursing facilities, 6 diagnostic and treatment centers, and more than 70 community clinics (24). The New York University School of Medicine Institutional Review Board approved this research.

Data sources were the HHC clinical data warehouse, the New York Statewide Planning and Research Cooperative System (SPARCS), and the New York Vital Statistics registry. Demographic and

clinical data were obtained from the HHC data warehouse, which is derived from electronic health records. We obtained hospitalization details including discharge diagnosis and readmission from SPARCS, a registry of all acute nonfederal hospitalizations in New York. Post-discharge mortality was determined from the Vital Statistics registry, which contains all deaths in the state. These 3 datasets were linked using a stepwise deterministic approach with patient identifiers.

We included acute care hospitalizations for heart failure within HHC hospitals, of adults 18 years of age and older between January 1, 2007, and September 30, 2010. Heart failure was defined as principal discharge diagnosis ICD-9-CM code 428. Hospitalization cases in which the patient died or was discharged to hospice were excluded. The primary exposure was the patient's ethnicity or race. Ethnicity and race were self-reported by patients and recorded by the admitting hospital. For patients whose hospital-recorded race and ethnicity were missing or listed as other or unknown, state-reported data were used. Patients were categorized as Hispanic, non-Hispanic white, non-Hispanic black, and non-Hispanic Asian. Due to small sample size, we excluded patients whose race was American Indian/Alaska Native, other, or unknown.

Outcomes included 30-day mortality, 1-year mortality, hospital readmission within 30 days, and hospital readmission within 90 days. Demographic variables included age and sex. Utilization and access variables included clinic visits and hospitalizations within HHC for 90 days prior to admission. Insurance status was categorized as Medicare, Medicaid, private, uninsured, and other insurance. Socioeconomic variables were estimated at the neighborhood level by using zip code-level data from the U.S. Census Bureau's 2009 American Community Survey and included median household income and percent of high school graduates. Clinical variables included systolic blood pressure, heart rate, and creatinine and hemoglobin levels on admission. Comorbid conditions were based on discharge diagnoses by using standard algorithms (25) and included diabetes, chronic kidney disease, myocardial infarction, cerebrovascular disease, peripheral vascular disease, chronic obstructive pulmonary disease, malignancy, and dementia.

STATISTICAL ANALYSIS. A chi-square test was used to test for differences among categorical variables among racial/ethnic groups. ANOVA was used to test for differences among continuous variables among racial/ethnic groups. Unadjusted mortality and

Download English Version:

<https://daneshyari.com/en/article/8665731>

Download Persian Version:

<https://daneshyari.com/article/8665731>

[Daneshyari.com](https://daneshyari.com)