Race And Gender Disparities In Survival To Hospital Discharge After Cardiac Arrest

Raina M Merchant, Lance B Becker, Peter W Groeneveld, UNIVERSITY OF Pennsylvania, Philadelphia, PA

Objective
In patients hospitalized after out-of-hospital cardiac arrest, survival to discharge is generally poor, with even lower survival rates among blacks and women. Little is known about the cause of these survival differences. Our objective was to determine if race and gender disparities in post-arrest survival could be explained by differences in age, pre-arrest comorbidities, or diagnoses during admission for cardiac arrest.

Methods
We assembled a retrospective cohort of Medicare beneficiaries (age >66) hospitalized between January 2000-December 2006. Inclusion criteria were: (1) admission diagnosis of cardiac arrest or ventricular fibrillation; (2) admission from the emergency department to the intensive care unit. We developed a multivariable logistic regression model which included age, race, and gender. We also included pre-existing comorbidities (CAD, CHF arrhythmia, diabetes, renal disease, and valvular heart disease), and the presence of health care encounters prior to the cardiac arrest admission, by linking inpatient and outpatient Medicare claims during the 12 months preceding the cardiac arrest admission. The model also included diagnoses during the cardiac arrest hospitalization, including AMI, ACS, pulmonary embolism, stroke, sepsis/shock, and hyperkalemia.

Results
Among patients hospitalized for cardiac arrest, 11% (7,481/65,563) were black, 89% (58,082/65,563) were white, and 54% (35,468/65,563) were male. Survival to hospital discharge was 30% (2,280/7,481) among blacks and 34% (19,880/58,082) among whites (p<0.01). Survival among women was 31% (9,187/30,095) and among men was 37% (12,973/35,468), (p<0.01). In the multivariable model, the adjusted odds ratio (OR) for blacks surviving to hospital discharge was 0.90 (95% confidence interval {CI} 0.85-0.95, p<.01) and for females the OR was 0.80 (95% CI 0.77-0.83, p<0.01).

Conclusion
Among patients with cardiac arrest who were initially resuscitated and hospitalized, gender and race disparities in survival to hospital discharge were not explained by variation in age, pre-existing comorbidities, or concurrent diagnoses during the index hospitalization.

Disclosure Block:
**R.M. Merchant**, None; **L.B. Becker**, Philips Healthcare, Seattle, WA; Laerdal Medical, Stavanger, Norway; Alsius Corporation, Irvine, CA; NIH, Bethesda, MD; Cardiac Science, Bothell, Washington, M,B; Philips Healthcare, Seattle, WA, Benechill Inc, San Diego, CA, and multiple academic institutions, M,D; Philips Healthcare, Seattle, WA, Benechill Inc, San Diego, CA, and multiple academic institutions, M,E; **P.W. Groeneveld**, None.