Racial disparity in mortality, by identified CKD stages in elderly Medicare patients

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Introduction
- The United States Renal Data System has shown that mortality rates for African Americans (AAs) are lower than those for Whites in dialysis patients.
- A study using the Third National Health and Nutrition Examination Survey data showed that in patients with early CKD stages (1-3), AAs had significantly higher risk for death than Whites among persons who were <65 yrs old, but this was not seen among those who were age 65 or older.
- Beginning October 2005, new ICD-9 codes were introduced to identify CKD by stage in the Medicare population.

Objective
- This study was to examine the mortality differences between Whites and AAs Medicare patients older than 65 years in different CKD stages.

Methods
- Study population included 2006 to 2007 period prevalent CKD patients from the 5% Medicare random sample agreement with or older than 45. Patients were excluded if they were not enrolled in HMO, Medicare as secondary payor, or diagnosed with ESRD.
- Patients were followed from January 1 to December 31, 2007 for 2006 CKD and from January 1 to December 31, 2008 for 2007 CKD; censored at ESRD date or the end of Medicare entitlement.
- CKD stage definitions were identified from 2006-2007 claims with ICD-9 codes of 585.1-5.
- Adjusted mortality rates by CKD stages were based on Cox regression and adjusted for age, gender, and comorbidities with the all CKD cohort as reference.
- Relative risks (RRs) were determined from Cox regression. To examine the risk of death and its association with patient characteristics, we performed an unadjusted model, and models adjusted for age, gender, and further adjustments for comorbidity.

Results
- Among the study population, 57,125 Whites and AAs were defined as CKD stages 1-5:
  - Whites: 87.2% AAs: 12.8%
  - CKD stages 1-2: 19.5%; stage 3, 53.9%; and stages 4-5, 26.6%
- Among the 7,332 AAs: CKD stages 1-2, 21.1%; stage 3, 47.9; and stages 4-5, 26.6%
- Among the 57,125 Whites: CKD stages 1-2, 21.1%; stage 3, 47.9; and stages 4-5, 26.6%

Conclusions
- In the Medicare 5% random sample of patients with identified CKD stages 1-3, AAs were less likely to die when not adjusted for patient characteristics. The survival benefit in AAs became insignificant with adjustment for age, gender, and comorbidities.
- In the Medicare 5% random sample of patients with identified CKD stages 4-5, AAs were less likely to die when not adjusted for patient characteristics but this was not statistically significant.
- With adjustment for more patient characteristics, AAs were more likely to die. When adjusted for age, gender, and comorbidities, we found that AAs had significantly higher risk of death.
- We conclude that the improved AA survival on dialysis may reflect a survival bias compared to Whites.