Do all incident ESRD patients with diabetes share similar morbidity & mortality outcomes?  
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Introduction
- Past USRDS reports showed that incident end-stage renal disease (ESRD) patients with diabetes mellitus (DM) have the highest first-year mortality rates and Medicare costs.
- To reduce adverse event rates, the American Diabetes Association (ADA) recommends that people with DM should have a hemoglobin A1c (HbA1c) test every three months, with a target value ≤ 7%.
- Few data were available on HbA1c levels in incident patients or on those levels as an associated predictor of first-year mortality in patients with DM as the primary cause of renal failure (ESRD-DM).
- In May, 2005, CMS added to the ESRD Medical Evidence 2728 (ME) form a question about the patient's HbA1c level at initiation, providing an opportunity to assess this factor for its association to early mortality.

Objective
- To assess the impact of glycemic control among incident ESRD patients with respect to morbidity and mortality outcomes.

Methods
- The study included incident ESRD-DM patients from 1/1/2005 to 6/30/2007 with the 2005 ME form.
- Patients were divided into six groups using comorbidity data and the HbA1c test result (Y/N) on the ME form. Patients in the first five groups had a reported HbA1c level:
  - G#1 - using oral DM medications,
  - G#2 - using insulin,
  - G#3 - using oral DM medications and insulin,
  - G#4 - didn’t use DM medications,
  - G#5 - didn’t use DM medications, G#4 - didn’t use DM medications,
- G#1 was the only group with an HbA1c value.
- Glycemic control was defined as an HbA1c test value ≤ 7%.
- Mortality rates (AHR) were calculated using the Cox regression model, adjusting for age, gender, race, and ethnicity.
- Hospital admission rates and costs were calculated only on patients with Medicare as their primary payer.
- Follow-up time was 6 months from the date of ESRD onset.

Results
- Among 104,746 incident ESRD-DM patients, we found (Table 1):
  - Only 26% had a reported HbA1c test value on the ME form.
  - Most patients were under 65 years of age (53.2%), male (53.4%), white (66.1%), and non-Hispanic (82.3%). DM groups had similar age, gender, race, and ethnicity distributions.
- Hemodialysis (HD) patients made up 93.2% of the study cohort, 5.6% were on peritoneal dialysis (PD), and 1.2% were waiting for a transplant (TX).
- Most patients were < 65 years of age (76.8%); 45.4% were white, 23.2% were Hispanic, 23.6% were black, and the remainder were other or unknown.
- The mean age was 53.2% years, and 53.4% were female.
- DM groups had similar racial, gender, and age distributions.

Discussion
- HbA1c level tracks with AHR, hospital admission rates, and costs. Higher HbA1c levels are associated with higher AHRs, admission rates, and costs.
- Attempts were made to gain insights on G#6 by re-introducing them back into G#1 - G#5.
- Patients were equally distributed, ranging from 71% to 77%, and there were no distinct geographic differences among networks and providers.
- There were similar percentages of HbA1c Medicare claims among those with and without an HbA1c reported on the ME form (mean: 71% vs. 63%).
- Cox regression showed consistent results with and without G#6 in the model, and G#1 was still the only group with significant AHR (0.773 vs. 0.777).

Conclusions