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## DIALYSIS. EPIDEMIOLOGY, OUTCOME RESEARCH, HEALTH SERVICES RESEARCH - 1

FP709

### GLYCATED HEMOGLOBIN LEVELS AND MORTALITY IN A LARGE US COHORT OF INCIDENT DIABETIC HEMODIALYSIS PATIENTS

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**Introduction and Aims:** In the general population, contemporary randomized controlled trial (RCT) data (i.e., ACCORD) have shown that intensive glycemic control is associated with higher risk for adverse outcomes in diabetic patients with high cardiovascular (CV) risk, contrary to earlier RCTs (i.e., DCCT/EDIC and UKPDS). While observational data suggest that lower glycated hemoglobin (HbA1c) levels are associated with higher mortality in prevalent hemodialysis (HD) patients, this has not been consistently observed. Given their high underlying CV risk, we hypothesized that lower HbA1c levels are independently associated with higher death risk in a large cohort of incident diabetic HD patients.

**Methods:** We studied a 5-year cohort (1/2007-12/2011) of adult incident HD patients with diabetes from a large US dialysis organization with one or more HbA1c measurements during the first 91-days from start of maintenance dialysis. To determine the short-term and long-term impact of HbA1c upon outcomes, we examined the association between time-dependent HbA1c and baseline HbA1c with mortality risk, respectively. Hazard ratios were estimated using baseline and time-dependent Cox models (unadjusted, case-mix adjusted, and case-mix+laboratory adjusted).

**Results:** Among 63,607 patients meeting eligibility criteria, the mean±SD HbA1c level was 6.5±1.3%, and 37% of patients had HbA1c levels <6%. In time-dependent analyses assessing the short-term risk of HbA1c, there was a graded inverse association between HbA1c levels less than 7% and higher death risk in the case-mix analyses: adjusted HRs (aHRs) (95%CI) 1.07 (1.02-1.12), 1.16 (1.10-1.21), and 1.61 (1.52-1.71) for HbA1c 6-7, 5-6, and <5%, respectively. In the case-mix+laboratory analyses, associations

remained significant for HbA1c levels <5% (Figure 1A). However, in baseline analyses assessing the long-term risk of HbA1c, values <7% were associated with lower death risk in the case-mix+laboratory analyses: aHRs (95%CI) 0.95 (0.91-0.99), 0.91 (0.88-0.95), and 0.92 (0.86-0.98) HbA1c 6-7, 5-6, and <5%, respectively (Figure 1B). **Conclusions:** Lower time-dependent HbA1c levels (<7%) were associated with higher mortality, suggesting that tighter glycemic control carries short-term risk in incident HD patients with diabetes. However, baseline HbA1c levels <7% were associated with lower mortality, suggesting that tighter glycemic control may have long-term benefits. Further studies are needed to confirm findings, and to explore pharmacotherapeutic strategies that optimize survival in diabetic HD patients.

