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Hemoglobin Trends in Incident End-Stage Renal Disease Patients from 2008-2012

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Background: Major changes to erythropoiesis-stimulating agent (ESA) product labeling in 2011 have impacted anemia management as recently noted in the prevalent end-stage renal disease (ESRD) population (Collins, NKF 2012). However, changes in pre-ESRD care are also affecting incident ESRD hemoglobin (Hb) levels. We sought to describe the mean and distributional changes in Hb among incident ESRD patients (pts).

Methods: In a retrospective analysis, we identified all incident pts at a large dialysis organization. Incident patients were defined as patients beginning dialysis for the first time and having received HD for < 90 days from 1 January 2008–31 March 2012. The concentration of Hb at first measurement in each incident dialysis patient was used as a surrogate for pre-ESRD anemia management. Mean values for the first Hb test after starting dialysis were used. Population mean and percent of patients with Hb < 10 g/dL were plotted over time.

Results: A total of 116,801 incident patients were included in the analysis. Mean Hb concentrations at the first test after starting dialysis demonstrated a modest decline over the 4 years, shifting from 10.3 ± 1.4 g/dL (mean \pm SD) to 9.9 ± 1.2 g/dL between January 2008 and January 2012. The proportion of patients with Hb < 10 g/dL showed a concurrent increase (42.0%–56.6%). Initial Hb levels appeared to plateau after June 2009, and a slight decline was observed after the FDA label change in late June 2011.

Conclusions: From January 2008 to March 2012, the proportion of patients beginning dialysis with Hb < 10 g/dL increased and incident patient mean Hb concentrations decreased. In July 2011, over 50% of patients began dialysis with Hb levels < 10 g/dL. We observed modest steady reductions in Hb levels that temporally correspond to revised FDA guidelines and label changes for ESAs in the same time period. Patients started dialysis with lower initial Hb concentrations, reflecting more conservative predialysis chronic kidney disease care by the nephrology community.

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