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Hemoglobin (Hb) Measurements, Dose Titrations, Erythropoiesis-Stimulating Agent (ESA) Use and Hb Target Achievement in Patients on Dialysis

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Purpose: Frequent Hb measurements may lead to increased dose titration. The following analysis was performed to better understand the relationship between Hb measurement frequency, dose titrations and Hb outcomes.

Methods: 2010 data from a large US dialysis provider (1,630 dialysis facilities; 141,631 patients on dialysis) was analyzed to evaluate the relationship between Hb measurements, dose titrations, ESA utilization, and the % of patients within Hb 10-12 g/dL. Hb measurements (grouped into <2, 2 to <3, and ≥3 per patient-month), dose titrations (dose changes >10%), average monthly ESA use and average monthly % of patients within Hb range over 1 year were analyzed.

Results: Facilities with frequent Hb monitoring (mean of 1.8 vs 3.6) were associated with a 50% increase in dose titrations and a 25% increase in ESA use, with no increase in the percent of patients within Hb 10-12 g/dL (Table). Mean Hb measurements and dose titrations were 2.8 and 1.08 per patient-month, respectively, with 67% of sites having at least 1 dose titration per patient-month. Distribution of comorbidities and hospitalizations were similar across low and high frequency Hb-measurement facilities.

Table. Mean Values Per Patient-Month

Group, no. facilities	Hb measurements, mean	Dose titrations, mean	ESA Use, mean (1000 U)	Hb 10-12 g/dL, % patients
<2 Hb measurements (n=94)	1.8	0.8	57.8	59.9
2 to <3 Hb measurements (n=954)	2.5	1.0	68.9	61.8
≥3 Hb measurements (n=582)	3.6	1.2	72.0	60.9

Conclusion: Frequent Hb monitoring and ESA dose titration may be associated with increased drug utilization without improved Hb target achievement.

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