

Presenting Author: Jiannong Liu

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Corresponding/Presenting Author: Jiannong Liu M. S.

Department/Institution: Nephrology Analytical Services

Address: 914 South Eighth Street, Suite D-206, Minneapolis, Minnesota, United States, 55404

Phone: 612-347-3903 **Fax:** 612-347-5878 **E-Mail:** nas@nephrology.org

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Economic Impacts of Anemia Correction and Geographic Variability of Expenditure in Hemodialysis Patients

Jiannong Liu¹, Suying Li¹, James P. Ebben¹, Willard G. Manning², Jennie Z. Ma³ and Allan J. Collins^{1*}. (Sponsored by Allan Collins)¹Nephrology Analytical Service, Mpls Medical Research Foundation, Mpls, MN; ², Univ of Chicago, Chicago, IL; and ³, Univ of Tennessee, Memphis, TN.

Higher hematocrits (Hcts) in hemodialysis (HD) patients were associated with reduced mortality, lower hospitalizations, and reduced expenditures. Mean Hct levels in the HD population increased from 28% in 1990 and stabilized at 34.4% by the fall of 1999, consistent with the NKF/DOQI target Hct range of 33-36%. To test the hypothesis that higher Hcts were associated with reduced expenditures and evaluate the impact of regional variability, we studied patients incident to HD during 1991-1995 with follow-up ending on 12/31/96. All patients survived 9 months with an entry period from month 4 to 9, which was used to determine patient age, gender, race, comorbidity, severity of disease, and Hct level. Per member per month (PMPM) expenditures during the one-year follow-up period were determined, 1% trimmed, log transformed, and used as a dependent variable. A Bayesian Spatial Hierarchical regression model was used to determine geographic variation in expenditures during the study period on a health services area (HSA) level.

	Hct<30	Hct 30-33	Hct33-36
Mean PMPM	4724	4339	4047
STD over HSAs	298	310	67

Higher Hcts were significantly associated with lower expenditures and geographic variation in PMPM adjusted at the HSA level was lowest for Hct 33-36% and largest for Hct<33%. Geographic variation was highest in 1991 and lowest in 1995. We conclude that higher Hcts are associated with reduced PMPM cost and show lower regional variability in expenditures. Adjusted PMPM Geomaps will depict the variation across the US by Hct level and cohort year.