

POSTER ABSTRACTS
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Chronic Disease
40

**The Relationship Between HA1C Variation
And Health Care Cost**

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Objective: The purpose of this study was to determine if variation in glycosylated hemoglobin (HA1C) levels from year to year is predictive of future health care costs.

Methods: A population of 1,091 members with diabetes was identified where at least one H A1C was present in each of the calendar years from 1992 through 2000. Where more than one measure was available the last one in the calendar year was used. The variation in HA1C was calculated as the average of the absolute change from one year to the next for each patient. The overall average HA1C over the years from 1992 to 2000 and the degree of change from 1992 to 2000 was also calculated. To control for comorbid effects a Charlson score was calculated for 2000. The components of cost used as dependent variables were from the year 2000 and included; total health care charges, total inpatient charges and total charges for primary care. Gender and age in 2000 were also determined.

Results: Controlling for age, gender and comorbid conditions total health care charges were significantly ($p=0.01$) related to variation in HA1C levels over the preceding nine year period, with an average variation of 1% of HA1C resulting in a 42% increase in charges. The same analysis of the inpatient component of charges was even more significant ($p=0.002$) with an average variation of 1% of HA1C resulting in a 191% increase in charges. Primary care charges also had a 26% increase for a 1% variation.

Conclusions: While much of the focus in diabetes treatment has been on reducing HA1C values, this study suggests that greater attention should also be paid to maintaining HA1C at constant levels.