



## **ADA: Diabetes-Related Education Cuts Hospitalizations and Charges**

**Diabetes education, especially counseling from nutritionists, can reduce hospitalizations and lower hospital charges by 14 thousand dollars, for urban, low-income patients.**

In an observational study, hospital charges for diabetes patients who had any sort of education about their disease were \$14,251 to \$22,000 lower over eight years than charges accumulated by those who did not receive any education, reported Jessica M. Robbins, Ph.D., of the Philadelphia Department of Public Health, and colleagues.

Attendance at a class was associated with six fewer hospitalizations per 100 person-years and each nutritionist visit resulted in 16 fewer hospitalizations per 100 person-years, she told attendees at the American Diabetes Association meeting.

"I think we can conclude education in any form probably reduces hospitalizations," she said.

Dr. Robbins and colleagues linked data from eight public safety-net primary care clinics in urban Philadelphia to hospital discharge data from the Pennsylvania Health Care Cost Containment Council.

The study included all 18,416 patients seen at the clinics who were diagnosed with diabetes from March 1, 1993 through December 31, 2001. In total, there were about 87,000 person-years of follow-up for patients after their first diabetes diagnosis.

Among them, 26% of patients were hospitalized at least once for an average of \$34,421 in total hospital charges per patient during follow-up. A small percentage attended at least one diabetes class (5.6%), had at least one visit with a nutritionist (8.9%), or had another type of health education visit (1.8%).

Predictors of hospitalization were male gender, older age, earlier diagnosis, and non-Hispanic white race. The patient population was 73% African American, 10% Hispanic, and 3% Asian. After controlling for these factors, one or more of any type of education visit was associated with 0.1185 fewer hospitalizations per year than among those who did not have any education.

Again, nutritionist visits appeared to have been more beneficial than diabetes classes. Hospital charges for those who had at least one visit with a nutritionist were \$22,889 lower than charges for patients who had no education visits and \$19,148 lower than charges for patients who'd attended classes.

The same pattern was seen for each visit. Each education visit in general was associated with \$1,824 lower hospital charges. Each diabetes class was associated with \$1,074 lower charges, and

each visit with a nutritionist was associated with \$10,786 lower charges compared with patients who had no visits.

The only statistically significant predictor of hospital charges was having had at least one nutritionist visit. However, having had three or more visits was not a significant predictor.

Controlling for major comorbidity made the effects even greater, and older patients and those with kidney disease appeared to have the biggest benefit.

Dr. Robbins cautioned that the study was based on administrative data so the savings reported reflect hospital charges rather than true costs. She also warned that at least some of the effect was likely because of residual confounding.

Furthermore, "the big question is how do you get any of this to happen," Dr. Robbins noted, because such programs are hard to get patients to attend without incentives. But, "if you can get even one, you can make a difference," she concluded.

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