

Diabetes Education Cut Hospital Admissions

BY MIRIAM E. TUCKER

FROM THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF DIABETES EDUCATORS

SAN ANTONIO – Data continue to show that diabetes education saves money.

Last year, the findings of an analysis of 3 years' worth of data from a large national claims database showed that patients with diabetes who receive diabetes education incur lower costs than do those who have not received the education (*Diabetes Educ.* 2009;35:752-60).

Now, preliminary findings from a new analysis of the same database show that the cost reduction comes mainly from a drop in hospital admissions, and that ongoing diabetes education beyond the initial sessions received at diagnosis are necessary to produce the cost savings.

The findings were presented by actuarial consultant Ian Duncan, president of Solucia Consulting. His firm conducted the analysis for the American Association of Diabetes Educators (AADE) using data from Solucia's claims database of about 20 million individuals, including both Medicare and commercially insured members. In 2007, the database contained 166,931 individuals with diabetes who had commercial insurance and 56,345 who were on Medicare.

"We all know how much you do for patients, how much you improve their lifestyle and help them cope with their condition. But the kinds of people we work with – the insurance payers (Medicaid agencies, Medicare, and health plans) – are interested in whether the investment for the services you provide brings a return to them in terms of the costs and the claims that the patients incur," said Mr. Duncan, also of the department of health administration at Georgetown

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Major Finding: In 2007, the adjusted cost per member per month of plan members with diabetes with commercial insurance was \$923 among those who received diabetes education, compared with \$1,072 among those who did not. For Medicare enrollees, those figures were \$1,241 and \$1,322, respectively.

Data Source: Ongoing claims database analysis of approximately 20 million lives, including both Medicare and commercially insured members. In 2007, the database contained 166,931 individuals with diabetes who had commercial insurance and 56,345 on Medicare.

Disclosures: The study was funded by the AADE. Mr. Duncan had no further disclosures.

University in Washington.

In 2007, the adjusted cost per member per month of plan members with diabetes who were commercially insured was \$923 among those who received diabetes education, compared with \$1,072 among those who did not. For Medicare enrollees, those figures were \$1,241 and \$1,322, respectively. Those differences were significant for both groups.

The follow-up, risk-adjusted analysis of patients who were continuously enrolled in 2005-2008 showed a significant difference in costs for the commercially insured patients (\$985 for the 3,094 who received diabetes education vs. \$1,043 for the 31,075 who did not), but there were no differences in the Medicare group, which included just 898 patients who received diabetes education and 23,342 who did not (nearly \$1,400 for both).

However, when the frequency of diabetes education

was factored in, it became clear that enrollees who received two or more education sessions incurred lower costs than did those who received one or no sessions.

In the commercially insured group in 2008, costs per patient per month were \$845 for those receiving at least two education sessions, \$863 for those who had just one session, and \$907 for those with no diabetes education. In the Medicare group, the costs for those with zero and one session were nearly identical (\$1,343 and \$1,337, respectively), whereas the patients who did receive diabetes education that was covered by Medicare cost \$1,267.50 per month. Neither quite reached statistical significance.

These differences were seen even though more diabetes education was associated with higher medication compliance and thus greater pharmacy costs. In 2008, costs for glucose-lowering drugs were nearly identical for those with commercial insurance who received no education sessions or just one (\$76 and \$78, respectively) but were significantly higher for those who had at least two sessions (\$99). Similarly, those figures in the Medicare group were \$69 and \$70, compared with \$81, respectively.

Reductions in hospital admissions in the group receiving diabetes education more than made up for the higher pharmacy cost. In 2008, there were just 180 per 1,000 admissions for diabetes patients with commercial insurance who received two or more diabetes education sessions, compared with 212 per 1,000 for those with one session and 221 per 1,000 for no sessions.

The difference was not as striking in Medicare, where those figures were 709, 665, and 735 per 1,000, respectively.

Other than the AADE funding for this study, Mr. Duncan stated that he had no further disclosures. ■

Pharmacist Phone Calls Improved Diabetes Rx Adherence

BY MIRIAM E. TUCKER

FROM THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF DIABETES EDUCATORS

SAN ANTONIO – A personalized phone call from a retail chain store pharmacist to patients who missed diabetes prescription refills significantly improved medication adherence at 1 year in a study of 265 patients with type 2 diabetes.

"Because adults with diabetes visit pharmacies more often than they visit any other health professional [setting], it is believed there is an untapped opportunity for pharmacists to provide self-management education and support for medications," said certified diabetes educator Peggy S. Odegard, Pharm.D.

The randomized, controlled Medication Adherence Program (MAP) study was conducted at four pharmacies inside Safeway grocery stores in Washington state. When a prescription refill for an oral glucose-lowering medication was missed by 6 days, a pharmacist would call the patients to ask why they had missed the refill and whether they would like to refill it now. Depending on the response, the pharmacist would offer individualized advice and education.

A follow-up phone call was made at 1 week to 1 month after the intervention to further assess the patients' needs and address any problems.

The subjects had all been using the

pharmacy consistently for a year or longer.

The 145 controls, who were not called when refills were missed, were slightly younger, with a mean age of 61 years, compared with 65 years for the 120 who received the phone call intervention. The groups' other baseline characteristics were similar, including sex (a little more

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Major Finding: At 12 months, the likelihood of an oral medication adherence rate above 80% was 4.77 times greater among the intervention group than among controls, a significant difference despite wide confidence intervals.

Data Source: A randomized controlled study of 265 patients with type 2 diabetes conducted with pharmacists at four Safeway pharmacies in Washington state.

Disclosures: The study was funded by a grant from the American Association of Diabetes Educators' Education and Research Foundation.

than half were women), the number of different medications they were taking, and the proportion who were on insulin (23% in both groups).

Among 119 patients who reported problems with taking their medications, 27% cited "difficulty with taking medication," 26% said they simply "forgot to order refills," and 8% "forgot to pick up refills." Of those with "difficulty taking medication," the most common difficulty listed was "remembering dose."

Adherence was assessed by the change

in "medication possession ratio" (MPR), or the number of days of medication supplied in a prescription fill divided by the number of days until the prescription was refilled. For example, a 30-day supply that is filled and then refilled in 30 days would yield an MPR of 1.0. But if a patient receives a 30-day prescription but doesn't refill it for 60 days, the MPR

would be 0.5, or half the adherence rate expected, explained Dr. Odegard, of the University of Washington, Seattle, in an interview.

At baseline, MPR for diabetes medications did not differ between the two groups (0.86 for the intervention group and 0.84 for controls). However, the proportion of patients with an MPR greater than 0.8

was slightly higher in the intervention group than in the controls (74.4% vs. 65.2%), meaning that it would be harder to prove that the intervention worked because the patients in that group already were somewhat more adherent, Dr. Odegard pointed out.

Over 12 months, the pharmacists conducted an average of 3.4 phone call interventions (or occasionally in-person interventions) per patient, and were reimbursed \$10 per intervention. Interventions lasted an average of 12.6 minutes each. In addition to diabetes

education (including advice on prevention of medication side effects) and adherence support (including integration of medication dosing with daily activities), pharmacists helped to optimize the patients' regimen with the prescriber and/or helped with economic adjustment (for example, a change to generic).

At 12 months, the MPR was significantly improved in the intervention group (up to 0.90 from 0.86), whereas in the control group the MPR declined slightly (from 0.84 to 0.82). The difference in MPR between the two groups at 12 months also was significant. Moreover, the likelihood of an oral medication adherence rate greater than 80% (MPR 0.80 or higher) was 4.77 times greater among the intervention group than in the controls. This difference was significant despite wide confidence intervals, said Dr. Odegard.

Dr. Odegard and her associates are hoping to integrate this type of program into local pharmacy chains. Several remaining challenges include the fact that patients don't always pick up their own medications, some might use both community and mail order pharmacies, and some might have multiple physicians for their diabetes care.

During the question-and-answer period, Dr. Odegard remarked that such programs could provide a significant revenue stream to pharmacies. She and her colleagues are currently conducting a cost analysis. ■