

# Program Lifts Quality of Diabetes Care

BY MICHELE G. SULLIVAN

FROM WONCA 2010, THE CONFERENCE OF THE WORLD ORGANIZATION OF FAMILY DOCTORS

CANCÚN, MEXICO — Feeling the squeeze from government cutbacks and the need to wean itself from big pharma dollars, the Mayo Clinic has found a new source of support for resident education: the Physician Quality Reporting Initiative (PQRI) program.

Launched last year, a program aimed at tracking key measures of diabetes care has helped the Mayo Clinic of Jacksonville, Fla., turn its already strong performance in diabetes care into a revenue stream for the residency program while also improving the consistency of care and giving residents an invaluable window on the logistics of conducting quality improvement projects.

From the outset, however, the goal was on improving diabetes care, Dr. Jerry Sayre emphasized.

The project was spurred by a request from the leaders of Mayo's family medicine department to create a diabetes care improvement program. "In Florida, we spend more than \$12 billion each year to care for patients with diabetes," Dr. Sayre said.

These patients use more health care resources than nondiabetic patients in the clinic's family medicine sector and cost

42% more to care for than nondiabetic patients. Nearly one-quarter of patients hospitalized each year at the Mayo Hospital in Jacksonville have diabetes as a primary diagnosis or comorbidity.

Consistently good preventive care really pays off for this group, Dr. Sayre said. "A hemoglobin A<sub>1c</sub> that's decreased by 1% decreases diabetic complications by 35%. And keeping LDL and blood pressure [in normal ranges] decreases cardiovascular morbidity by 50%."

Using the American Board of Family Medicine's 2010 Diabetes Module, physicians at the clinic identified their most consistently implemented care measures and pinpointed those that needed improvement, he said.

Data collected for the ABFM module can be used to fulfill requirements for the PQRI. Under that program, physicians who meet certain clinical quality standards data for 30 individual Medicare patients can earn an incentive payment of 2% of their total allowed charges for Medicare Physician Fee Schedule-covered professional services.

In the Mayo Clinic's case, that incentive payment amounts to \$86,000, which Dr. Sayre plans to funnel back into resident education projects.

In addition to providing an alternative means for fulfilling PQRI requirements, the ABFM's Diabetes Module provides

data for generating research and satisfies certification and continuing medical education requirements, said Dr. Sayre.

The module measures how often six clinical tests are performed against what the ABFM considers benchmark rates for patients each year: HbA<sub>1c</sub> (benchmark 95%), LDL-cholesterol control (94%), hypertension control (100%), diabetic eye exams (60%), microalbumin testing for diabetic neuropathy (80%), and diabetic foot exams (visual, monofilament, and pulses [77%]). Patient records must contain documentation that each measure was performed in the prior year.

Data were collected on 600 patients seen in Mayo's family medicine clinic during 2009 and were compared with data from a fee-for-service regional medical clinic and national benchmarks.

Mayo physicians were doing "a pretty consistently good job" in most areas, exceeding the benchmark goal for each parameter, Dr. Sayre said. However, "we could have done better in some areas," such as diabetic foot exams, which were performed 95% of the time. Mayo's goal

is to perform it at every visit. As it turned out, a key reason for the shortfall was the lack of monofilaments in every office. "So we purchased monofilaments for each exam room."

**Data from the module can fulfill PQRI incentive requirements; those payments then go back to fund the program.**

DR. SAYRE

ing (92%).

Scores at the regional medical clinic were almost identical, although two were slightly higher than they were at Mayo: blood pressure control (100%) and eye exams (71%).

Once the data were available, Dr. Sayre and his Mayo Clinic colleagues, Dr. Scott Simmons and Dr. Ramon Cancino, "created a kind of 'doctor report card' to show patients how their doctors are measuring up to these goals," he explained.

The report shows how each patient's doctor compares with the overall picture of care at the facility and also against national benchmarks.

Dr. Sayre reported having no relevant financial conflicts. ■



## Hypoglycemia Common in Elderly, Even With High HbA<sub>1c</sub>

BY MIRIAM E. TUCKER

FROM THE ANNUAL MEETING OF THE AMERICAN DIABETES ASSOCIATION

ORLANDO — Hypoglycemic episodes were common despite high hemoglobin A<sub>1c</sub> levels among 40 elderly community-living adults with diabetes who underwent continuous glucose monitoring.

"Raising A<sub>1c</sub> goals may not be adequate to prevent hypoglycemia in this vulnerable population," Dr. Medha N. Munshi said.

Guidelines from the American Diabetes Association and the American Geriatric Society advise that the usual recommended hemoglobin A<sub>1c</sub> target of less than 6.5%-7.0% might be relaxed for elderly adults who have a history of severe hypoglycemia, limited life expectancy, advanced diabetes complications, or extensive comorbidity (Diabetes Care 2010;33[suppl 1]).

In practice, this has been interpreted as a goal of less than 8%. The ADA guideline was based on level "C" evidence, and no study has ever clearly demonstrated that raising the HbA<sub>1c</sub> target actually reduces the risk of hypoglycemia, said Dr. Munshi, director of the Joslin Diabetes Center geriatric programs at Beth Israel Deaconess Medical Center, Boston.

The current study used blinded continuous glucose monitoring (CGM) for 72 hours or longer in 40 community-dwelling diabetes patients who were seen at the Joslin Diabetes Center. To be included, they had to be older than 69 years and have a hemoglobin A<sub>1c</sub> level greater than 8%.

The study group was 60% female and 80% white. Mean age was 75 years and mean HbA<sub>1c</sub> was 9.3%. The patients took a mean of eight medications per day, with more than half (55%) on insulin alone, and another 38% on insulin plus one or more oral agents. Two-thirds had type 2 diabetes and the rest had type 1. Nearly a quar-

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**Major Finding:** One or more hypoglycemic events occurred in 26 of 40 patients despite hemoglobin A<sub>1c</sub> values above 8%. Of 102 hypoglycemic episodes, 95 were not recognized by fingerstick testing or by symptoms.

**Data Source:** Study using blinded continuous glucose monitoring for 72 or more hours in 40 community-dwelling diabetes patients seen at a tertiary diabetes center.

**Disclosures:** The American Diabetes Association funded the study. Dr. Munshi stated that she had no conflicts of interest.

ter were living alone, said Dr. Munshi, also with Harvard Medical School, Boston.

Patients performed four fingerstick glucose measurements per day and kept daily diaries of hypoglycemic symptoms, diet, and physical activity. One or more hypoglycemic events, defined as a glucose value less than 70 mg/dL, occurred in 26 of the 40 patients. Nearly three-fourths of the events involved glucose levels of 50-59 mg/dL, and in just under half the glucose dropped below 50 mg/dL.

The 26 patients experiencing hypoglycemia did not differ from the 14 without such events in patient characteristics including age, diabetes duration, HbA<sub>1c</sub>, or insulin treatment. There were also no differences between those who did and did not have hypoglycemia in the comorbidities cognitive dysfunction, depression, falls in the past 6 months, number of medications, hypertension, or vision/hearing problems.

Of the 26 with hypoglycemia, 12 had HbA<sub>1c</sub> levels above 9%. "Even a high A<sub>1c</sub> doesn't preclude lows. Hemoglobin A<sub>1c</sub> measures the mean. There are wide fluctuations in this population," Dr. Munshi noted.

There was a total of 102 hypoglycemic episodes, with

a mean duration of 3 hours per patient. Nocturnal episodes lasted for a mean of 2.5 hours. "The duration of episodes was quite concerning," she said.

Surprisingly, more than half (58%) of the 102 hypoglycemic episodes occurred among the 16 patients with type 2 diabetes, with a mean duration of nocturnal hypoglycemia nearly twice that of the hypoglycemia in the type 1 patients (2.9 vs. 1.6 hours). "Even the type 2 patients had wide glycemic excursions," Dr. Munshi commented.

Also of concern, the majority of episodes (95 of the 102) were not recognized by fingerstick testing or by the patients' symptoms. Moreover, there were no significant relationships between severity of hypoglycemia and age, type of diabetes, duration, HbA<sub>1c</sub>, treatment, or living alone.

In a follow-up interview, Dr. Munshi cited a previous study she and her colleagues published last year, showing that simplification of complex insulin regimens by using C-peptide to assess whether patients could eliminate or reduce the amount of insulin taken, so that oral agents could be used instead, reduced hypoglycemic episodes without deterioration of glycemic control (Am. J. Med. 2009;122:395-7).

"I believe that elderly patients with other comorbidities are unable to follow complex insulin regimens appropriately and end up having wide fluctuations in their glucose values. If a treatment regimen is designed with consideration for an elderly patient's self-care abilities, risk of hypoglycemia can be reduced," she said in the interview.

And when available, CGM can be extremely helpful for elderly patients. "I think CGM can be a great tool for pattern recognition and assessment of risk of hypoglycemia in elderly patients who are on complex insulin regimens without consideration of glycemic control," Dr. Munshi said. ■