

## Opportunities to Improve the Care of Older Patients with Diabetes

*Kell SH, Drass J, Bausell RB, Thomas KA, Osborn MA, Gohdes D. Measures of disease control in Medicare beneficiaries with diabetes mellitus. J Am Geriatr Soc 1999;47:417-22.*

### Study Overview

**Objective.** To investigate disease control measures in elderly patients with diabetes receiving care from physicians in a Medicare fee-for-service setting.

**Design.** Observational retrospective cohort study using data obtained from physician office medical records.

**Setting and participants.** A random sample of 5980 elderly (average age, 75.2 years), community-dwelling Medicare beneficiaries without end-stage renal disease who were being cared for by primary care physicians (PCPs) between January 1994 and June 1995. The physicians ( $n = 293$ ) were providing primary care for at least 25 Medicare beneficiaries with diabetes, were participants in the Ambulatory Care Quality Improvement Project (ACQIP), and had office practices located in Alabama, Iowa, and Maryland.

**Main outcome measures.** Clinical parameters assessed included blood pressure; blood glucose, total serum cholesterol, and serum creatinine levels; and frequency of glycosylated hemoglobin (HbA<sub>1c</sub>) measurement. Medication use (including anti-hypertensives, angiotensin-converting enzyme [ACE] inhibitors, and lipid-lowering agents) also was evaluated.

**Main results.** During the study period, 44% of patients received at least 1 HbA<sub>1c</sub> determination, 94% received at least 1 blood glucose measurement, 68% received at least 1 total serum cholesterol assessment, 74% received at least 1 serum creatinine test, and 97% received at least 1 blood pressure measurement. Ten percent of patients had mean blood glucose levels > 250 mg/dL. Statistically significant differences were noted for age and gender, with men and patients older than 85 years generally having better measures of disease control. Eighty-five percent of patients had evidence of hypertension. Of the group of hypertensive patients with blood pressure readings available, 70% had readings higher than 140/90 mm Hg, even though they had been prescribed

medication with a hypertension indication. Thirty-six percent of patients with hypertension were taking an ACE inhibitor. Thirty-two percent of those taking lipid-lowering medication had a total serum cholesterol value > 240 mg/dL.

### Conclusion

Clinicians generally did not provide optimal care to older patients with diabetes. In particular, HbA<sub>1c</sub> and serum cholesterol levels were not monitored at frequencies currently recommended, and many patients did not achieve recommended target levels of blood glucose, blood pressure, and lipids.

### Commentary

Patients with diabetes receive about 80% of their care from PCPs. In 1990, 46% of all office visits for patients with diabetes in the United States were reimbursed through the Medicare program by the Health Care Financing Administration (HCFA) (up from 39% in 1985). This study was part of ACQIP, a project developed by HCFA, medical societies, specialty groups, and Peer Review Organizations in 3 geographically diverse states to evaluate the quality of care provided to Medicare beneficiaries with diabetes. Because the physicians whose care was examined were volunteers in a national quality improvement program and not a random sample of physicians, the problem of suboptimal management of elderly patients with diabetes may be greater than the authors suggest.

### Applications for Clinical Practice

Diabetes among the elderly is a national health care challenge that will intensify as the population of Americans over age 65 grows. Currently, 10% of elderly persons are diagnosed as having type 2 diabetes, and many of them report chronic comorbidities of hypertension and ischemic heart disease [1,2]. This study contributes to our understanding of the quality of care these patients receive and illuminates opportunities for improvement, such as monitoring HbA<sub>1c</sub> and serum cholesterol levels at recommended frequencies [3-5].

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