

Diabetes:

A Case for Quality Health Care

Improving the quality of care for patients can prevent complications and reduce costs

By Trudi Matthews

Three-and-a-half years ago while waiting in an exam room during a routine visit to his doctor, Massachusetts Rep. Dan Bosley noticed a poster on the wall. He recognized some remarkable similarities between the disease described and symptoms he was experiencing.

When his doctor came in, Bosley mentioned that he had the symptoms described on the poster. His doctor laughed and said those symptoms could be warning signs for a lot of things.

Fortunately, the doctor performed a blood test. That is how Bosley found out he had diabetes.

Dan Bosley is one of an estimated 13 million people diagnosed with diabetes in the United States. Luckily, he and his doctor paid attention to the warning signs. More than 5 million Americans are believed to have diabetes without even knowing it.

Even more surprisingly, a significant number of people diagnosed with diabetes don't know about or receive the routine care they need to avoid the serious complications of the disease.

Getting Serious about Quality Care

Since his diagnosis, Bosley has had to make adjustments to his life to deal with his disease. He takes medication, checks his blood glucose and monitors his eating every day. Having diabetes means he has to make sure he receives yearly examinations of his eyes, feet and hemoglobin levels. He also has to monitor his blood pressure and cholesterol.

Missing any of these important tests and not keeping blood glucose, blood pressure or cholesterol under control can have serious consequences. Yet, experts say it happens all too frequently in our health care system.

New Hampshire state Rep. Fran Wendelboe discovered that she had pre-diabetes about three years ago. She

tried controlling her diet, losing weight and monitoring her blood sugar on her own, but her hectic schedule as an elected official and times of stress made this difficult. One morning she experienced trouble seeing and knew that she needed to see her doctor.

"It was time for me to stop avoiding an official diagnosis and get serious – actually, past time," she said.

Health care analysts and researchers have long documented extensive gaps between what the medical community knows is the most effective care and the care that patients actually receive. The gap is so large that the prestigious Institute of Medicine called it a chasm in its 2001 report, *Crossing the Quality Chasm*. This gap between science and practice is responsible for wasteful, ineffective care, preventable medical complications, avoidable hospitalizations and premature deaths.

The quality chasm is particularly problematic for people with chronic diseases such as diabetes. If not treated and managed well over time, diabetes can result in serious complications, including blindness, lower limb amputations, kidney failure and premature death. The disease causes more than 200,000 deaths a year, making it the nation's sixth leading killer.

Public health officials say we are losing the fight to prevent and control diabetes. As the rate of overweight and obesity has grown in America, so has the incidence of diabetes. Diabetes rates have increased by 61 percent since 1991, according to the Centers for Disease Control and Prevention.

The recent *National Healthcare Quality Report* from the Agency for Healthcare Research and Quality found that nearly one-third of people with diabetes do not have an annual eye or foot exam. Only 37 percent of adults diagnosed with the disease have their hemoglobin A1c (HbA1c) levels in the optimal range. HbA1c is a test of average blood glucose levels over the previous two to three months and is a key determinant for preventing diabetes complications. State-level data in the report

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also showed a large variation from state to state in the percentage of patients who received an annual HbA1c test, ranging from roughly 50 percent to 90 percent.

“Poor quality diabetes care is not about bad people, it’s about bad systems,” said Dr. Lawrence Harkless, chairman of the Texas Diabetes Council and professor of medicine at the University of Texas Health Sciences in San Antonio. “In the 15 minutes a doctor has with a patient, he or she will address the most pressing health concerns. So, many of these patients have multiple conditions that create competing priorities for doctors.”

Too Costly to Ignore

A growing number of health care analysts and leaders argue that the nation simply cannot afford to ignore the widespread quality problems that exist in U.S. health care system.

“As rates of diabetes increase across the country, roughly tracking with increases in obesity rates, states are quickly approaching a time when budgets will not be able to withstand the pressure of treating the flood of obesity-related diseases,” said Arkansas Gov. Mike Huckabee.

Diabetes is the sixth most expensive medical condition in the United States, costing an estimated \$92 billion in direct medical costs, according to the American Diabetes Association. The nation pays an additional \$40 billion indirectly through lost productivity and premature deaths.

“The economic costs of lost productivity, the health care costs of life-threatening complications, and the personal costs of limited fulfillment are costs our state can ill afford to pay,” said Harkless.

Diabetes is seen as one of the best cases for quality improvement because of its high cost, preventable complications, and widely accepted guidelines for effective care.

“Simple lifestyle modifications such as healthy eating, moderate exercise and weight control have conclusively been shown to prevent Type 2 diabetes by up to 60 percent,” said Michigan Surgeon General Kimberly Dawn Wisdom. “These solutions are



low-tech and low cost, and yet they produce a high impact.”

Other research based on the Diabetes Control and Complications Trial, a large, randomly controlled clinical trial, found that intensive therapy averted complications of the disease, and that increased care costs were offset by the returns from reductions in blindness, kidney disease and amputations. Research on diabetes disease management has also shown a return on investment. A study conducted for the Commonwealth Fund by Harvard University researchers found that, while health care purchasers were able to recover their investment in disease management programs, patients and society saw significant returns through improved quality of life.

States as Catalysts for Quality Improvement

State leaders in particular can play a key role in championing and fostering health care quality improvement. A number of states have been involved in innovative efforts to improve diabetes quality of care. These efforts have successfully improved patients’ lives while improving the quality and efficiency of health care.

Wisconsin

Wisconsin’s Diabetes Prevention and Control Program, part of the Wisconsin Department of Health and Family Services, developed an ambitious strategy to improve diabetes care quality for clients of managed care organizations. With the help of its Diabetes Advisory Group, the program developed care guidelines for all providers and health plans in the state. Out of this successful effort, officials launched the Collaborative Diabetes Quality Improvement Project in 1999. Designed to improve the quality of diabetes care for people in HMOs and other large health systems, the project involved the state’s HMOs, the Medicaid program and

Diabetes Facts

a number of other stakeholders. Participating health plans used the Health Plan Employer Data and Information Set comprehensive diabetes care measures to track progress in improving care.

“For this project, we applied a health systems approach rather than community interventions,” said Pat Zapp, program director for the Wisconsin Diabetes Prevention and Control Program. “We wanted to work to get people the appropriate care.”

An evaluation by the University of Wisconsin showed that the project successfully increased the percentage of people with diabetes who received eye exams from 62 percent to 69 percent, increased cholesterol screening from 72 percent to 78 percent, improved cholesterol control from 45 percent to 51 percent, and increased kidney disease monitoring from 47 percent to 52 percent.

California

Similarly, in an effort to address problems with undiagnosed diabetes and gaps in the quality of care, the California Cooperative Healthcare Reporting Initiative created the Diabetes Continuous Quality Improvement Project. Administered by the Pacific Business Group on Health, CCHRI is an alliance of the state’s largest health care purchasers, plans and providers. The group seeks to improve health care quality through collection of performance data, collaboration among all sectors of the health care system, and dissemination of information. The California state diabetes program is also a partner in the project.

Project participants have agreed on common treatment guidelines for diabetes (developed by California’s diabetes program and the Diabetes Coalition of California) and a common toolkit of interventions that eliminates confusion and conflicting information from different sources about how to monitor and treat diabetes.

“Diabetes is the quintessential chronic disease and you need to look at the entire system of care,” said Ann Albright, chief of the Diabetes Control Program for California’s Department of Health Services. “Simply telling providers to work harder and better will not work if the system is not structured to support them in quality improvement.”

Michigan

Michigan’s Diabetes Care Improvement Project uses six regional Diabetes Outreach Networks to develop partnerships with health care delivery agencies, to sponsor professional education, and to coordinate resources within their service areas. In the mid-1990s, the networks began working with providers to improve care. Results showed improved HbA1c levels among patients with diabetes and decreases in diabetes-related hospitalizations, amputations and mortality.

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■ **Description:** Diabetes is the presence of too much glucose in the blood. Type 1 diabetes usually begins in childhood and occurs when the cells that produce insulin are destroyed. Type 2 diabetes occurs as the body develops insulin resistance or the pancreas loses the ability to produce insulin. Insulin is a hormone produced by the pancreas to move glucose from the blood into the cells. Glucose (more commonly known as blood sugar) provides energy for cells. (American Diabetes Association, 2003)

■ **Prevalence:** 18.2 million people, or 6.3 percent of the U.S. population, are estimated to have diabetes. 13 million people are diagnosed; 5.2 million people do not know they have the disease. (The Centers for Disease Control and Prevention, 2003)

■ Cost:

\$132 billion total cost in 2002, making it the 6th most costly medical condition

\$92 billion in direct medical costs

\$40 billion in indirect costs due to lost productivity and death

\$13,000 per year in average medical costs for individuals with diabetes, versus \$2,500 per year for the average patient without diabetes

■ **Deaths:** estimated 213,062 deaths per year, making it the nation’s 6th leading killer; but many experts believe the diabetes death rate is underreported because diabetes is the underlying cause of many deaths from heart disease, stroke, kidney failure and other diseases.

■ **Possible complications:** Heart disease, hypertension, heart attacks and stroke; digestive problems; leg and foot ulcers and lower-limb amputation; eye problems and blindness; kidney disease and kidney failure; disability; susceptibility to infection; dental disease; skin problems; sexual dysfunction; increased risk for birth defects if pregnant; shock, coma and premature death. (American Diabetes Association, 2003)

Diabetes Resource Guide

The Agency for Healthcare Research and Quality in partnership with Medstat and The Council of State Governments is developing a new tool that state leaders can use to improve health care quality for diabetes. Later this spring, AHRQ will release *A State Leader’s Guide to Diabetes Care Quality Improvement: A Resource Guide*, which will use the data from its *National Healthcare Quality Report* and *National Healthcare Disparities Report* to help state officials assess the quality of diabetes care in their state. The guide will also provide an overview of how to improve health care quality along with real world approaches to diabetes quality improvement. For more information or to preorder a copy, contact Trudi Matthews at (859) 244-8157 or tmatthews@csg.org.

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“Despite our advances in knowledge and understanding of diabetes, information is still the greatest weapon in our collective arsenal,” said Surgeon General Wisdom. “If we do not get that vital information into the hands of the general community, it will negatively impact our combined ability to win the war against it.”

— *Trudi Matthews is associate director for health policy at The Council of State Governments.*

Checklist for Quality Improvement

A time-tested quality improvement tool is the “Plan-Do-Study-Act” model for guiding continuing quality improvement projects of all types. Adapting this model for the policy-making context, state leaders might consider the following checklist to develop and implement quality improvement action plans at the state level.

PARTNER

- ✓ Establish or redesign an advisory board to identify areas of health care in the state most in need of quality improvement.
- ✓ Include the key experts and stakeholders in quality improvement, including champions in health care who will promote key messages.

PLAN (with Partners)

- ✓ Decide on a set of questions or topic areas related to quality improvement.
- ✓ Develop goals for quality improvement.
- ✓ Take an inventory of current diabetes quality improvement programs in the state, including nongovernmental, federal or local initiatives.
- ✓ Identify data needs, including measures of health care quality that address the topic, have readily available benchmarks, and relate to action needed.
- ✓ Develop a preliminary evaluation plan.

DO

- ✓ Assemble data.
- ✓ Make initial estimates of the gap between health care quality currently and the goals of quality improvement.

STUDY

- ✓ Study the data and its implications for the quality improvement strategy.
- ✓ Prioritize areas for improvement.
- ✓ Put together the case for taking action.

ACT

- ✓ Refine the action and evaluation plans with the partners.
- ✓ Find resources to develop and support the initiative.
- ✓ Implement the action plan.
- ✓ Implement the evaluation plan.
- ✓ Assess whether improvement has occurred based on the evaluation data.
- ✓ Make adjustments to the action plan as necessary and continue the quality improvement process.

Improving Diabetes Care

- **Maine's** Consortium for Clinical Office System Improvement has worked to implement an array of tools for primary care practices aimed at quality improvement, prevention and chronic disease management, including the Cardiovascular/Diabetes Electronic Management System.
- **Arkansas'** Medicaid and diabetes program partnered with Eli Lilly to provide diabetes self-management education in underserved areas of the state.
- A number of state diabetes programs, including those in **California, New Mexico, Missouri** and **Washington**, have worked with community health centers on Health Disparities Collaboratives aimed at improving diabetes care for vulnerable patient populations. From 1999 to 2001, the Washington State Diabetes Collaboratives helped reduce blood glucose for patients in participating health centers by 10 percent on average and the percentage of patients with poor blood glucose control was reduced from 24 percent to 17 percent. The estimated annual cost savings from this improvement is \$419,000, according to the state Department of Health.
- **North Carolina's** Project DIRECT (Diabetes Interventions Reaching and Educating Communities Together) targets diabetes prevention and care efforts in the African-American community, including encouraging exercise, improved nutrition, awareness of diabetes, increased screening and better self-management of the disease. Through these efforts, North Carolina has reached 91 percent of its diabetes goals in the last four years, seeing increases in foot exams, eye exams, flu shots and HbA1c tests, especially among minority groups.

Internet

Resources

- AHRQ's Quality Tools Web Site
www.qualitytools.ahrq.gov
- AHRQ's National Healthcare Quality Report
www.qualitytools.ahrq.gov/qualityreport/download_report.aspx
- National Diabetes Education Program Web Site (sponsored by the National Institutes of Health)
betterdiabetescare.nih.gov
- Health Disparities Collaboratives
www.healthdisparities.net
- Wisconsin Collaborative Diabetes Quality Improvement Project
www.dhfs.state.wi.us/health/diabetes/Diabetes_Collaborative_Improvement_Project.htm