Diabetes
National Project Overview

Adult onset diabetes is highly prevalent in the Medicare population and over 150,000 Americans die each year from diabetes and its complications. Complications of the disease include blindness, kidney failure, nerve damage and cardiovascular disease. For most persons with diabetes, many of these complications can be prevented or delayed with appropriate monitoring and treatment. However, studies in both fee-for-service and managed care settings indicate that care is suboptimal. This project focuses on improving monitoring in the outpatient setting.

Public Health Importance

Diabetes is a major public health problem and is becoming more prevalent in all age groups. The increasing prevalence is attributed both to higher detection and to poorer health habits (increased rates of obesity being the primary culprit).

According to the National Health Interview Survey\(^1\), the prevalence of Type II diabetes is 1.3 percent at 18-44 years, 6.2 percent at 45-64 years, and 10.4 percent for those aged 65 and older. Based on oral glucose testing in the National Health and Nutrition Examination Survey, there is one undiagnosed case of diabetes for every diagnosed case.

Individuals with diabetes have death rates twice that of the general U.S. population. They are also disproportionately affected by disability at rates 2 to 3 times higher than reported by individuals without diabetes (NHIS). In addition to the increased morbidity and mortality that occur in individuals with diabetes, the financial costs to patients and to society are great. Individuals with diabetes have 2 to 5 times higher per capita total medical expenditures and per capita out-of-pocket expenditures than people without diabetes\(^2\). Health care costs for diabetes have been estimated to be around $92 billion in 1992 dollars.

Diabetes in Missouri

Diabetes is a leading cause of death and disability in Missouri. According to the American Diabetes Association, more than 310,000 persons in Missouri are estimated to have diabetes; only one-third of these persons have been diagnosed. Ten percent (approximately 85,000) of all Medicare beneficiaries have diabetes. Diabetes is the seventh leading cause of death in Missouri. Missouri residents with diabetes face not only a shortened lifespan, but also suffer from many preventable diabetes-related complications each year. In 1992, diabetes was the leading factor in 903 lower extremity amputations; 409 new cases of end-stage renal disease; 326 new cases of blindness; 100,839 cases of long-term reduction in activity; 71,464 hospitalizations of which 23,535 were due to cardiovascular disease among persons with diabetes. Each year the direct (medical care) and indirect (lost productivity) cost of diabetes to Missouri is approximately $1,900,000,000.

Main Objective

To reduce rates of blindness, amputations, kidney failure and to reduce the rate of diabetes-associated cardiovascular disease that is the major cause of death for the elderly population with diabetes.
**Diabetes Quality Indicators**

<table>
<thead>
<tr>
<th>Quality Indicators</th>
<th>Criterion Met</th>
<th>Missouri</th>
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<tbody>
<tr>
<td>1. Proportion of patients having annual hemoglobin A1c (HbA1c) monitoring</td>
<td>A claim record of an HbA1c test</td>
<td>Baseline</td>
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<td>Rank*</td>
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<td>2. Proportion of patients having a biennial lipid profile</td>
<td>A claim record of a lipid profile or the four individual components of a lipid profile (total cholesterol, high density lipoproteins, low density lipoproteins, and triglycerides) tested on the same day</td>
<td>Baseline</td>
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<td>Rank*</td>
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<tr>
<td>3. Proportion of patients having a biennial eye exam</td>
<td>A claim record of an eye exam performed by an eye care professional or an eye procedure which also involves the examination of the retina</td>
<td>Baseline</td>
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* 53 states/territories

**Process Objectives**

The health care team working with the beneficiary with diabetes can play a major role in improving disease outcomes by providing appropriate medical care and monitoring and by supporting healthy lifestyle choices. Diabetes and the complications of the disease can be prevented or delayed by management of blood glucose through diet, exercise, and medication, by management of other risk factors such as lipids, blood pressure, smoking, and by appropriate and timely examinations and treatment (e.g., eyes and feet).

The short-term objectives for statewide improvement projects are to increase the rates of key examinations and laboratory tests. In optional projects, intermediate health outcomes (such as blood pressure control) will also be measured.

**Clinical Background**

A landmark study, the Diabetes Control and Complications Trial, established the benefits of intensive therapy to maintain glucose control for individuals with Type I diabetes.²

A second landmark study, the United Kingdom Prospective Study of Diabetes published in 1998, also established that similar benefits of intensive therapy occur for patients with Type II diabetes.² Based on these studies, it is recommended that patients be monitored using hemoglobin HbA1c levels, a measure of glucose control over the past two to three months.

Persons with diabetes have a high rate of macrovascular disease and those with the disease have a high mortality rate. This complication of diabetes is thought to be due to a high level of risk factors such as lipids and to other biological factors intrinsic to diabetes. High lipid levels are modifiable risk factors and should be monitored. Getting a lipid profile is the first step in good lipid management.⁵,⁶

Persons with diabetes also suffer from microvascular complications associated with the disease, and retinopathy is one of these complications. High HbA1c levels are linked to the development of retinopathy. Control of HbA1c levels and eye examinations which detect and allow appropriate treatment of retinopathy can, in many cases, prevent or greatly reduce visual impairment.⁷
Clinical Background (continued)

Several organizations have published evidence based guidelines for screening, monitoring, and treatment of persons with diabetes. The American Diabetes Association’s guidelines are updated annually and are available on its website, www.diabetes.org. The Department of Veterans Affairs has published guidelines which are appropriate for the elderly population, since the average age of its diabetic patients is 64.

Opportunity for Improvement

The following are the median quality indicator baseline values from 19 Peer Review Organization projects performed during 1996 through 1999. With the exception of blood pressure monitoring, all of the indicators showed meaningful opportunity for improvement.

- HbA1c monitored, 59 percent
- Eye exam performed, 44.2 percent
- Lipid profile performed, 68.4 percent
- Blood pressure monitored, 89 percent
- Foot exam performed, 41.2 percent

Partnerships for Statewide Improvement

Primaris is committed to achieving statewide improvement in diabetes care. The Diabetic Kidney Disease project, conducted by MPCRF, demonstrated that significant improvement in diabetic screening services can be achieved. Designed specifically for the outpatient clinic setting, results from the DKD project showed an increase of 10.8 percent in annual urine screens and 8.9 percent increase in microalbumin testing among participating providers.

MPCRF is encouraging acute care facilities, practitioners, organizations and agencies across the state to implement internal improvement programs to increase screenings for diabetics. Primaris partners have access to:

- A team of qualified professionals
- Easy-to-use quality improvement tools
- Continuous quality improvement assistance

For more information about Primaris’ diabetes projects, call Gregg Laiben, M.D., Medical Director, or Kathryn Strom, RNC, BSN, CPHQ, Director of Quality Improvement, at 1-800-735-6776.

Visit our website at www.mpcrf.org

References


This is an edited version of a document prepared by the Health Care Financing Administration and/or its contractors. You can find the original, unedited version of the document at: www.hcfa.gov/quality/qty-3.htm.

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