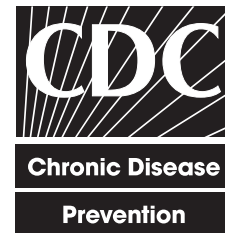


Preventing Chronic Diseases: Investing Wisely in Health

Preventing Diabetes and Its Complications



U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES

The Reality

- Nearly 24 million Americans have diabetes, and about one quarter (5.7 million) of them don't know that they have the disease.
- Almost 25% of the population aged 60 years or older have diabetes.
- At least 57 million Americans have a condition known as prediabetes which means having a high risk for developing type 2 diabetes. People with prediabetes have blood glucose (sugar) levels that are higher than normal, but not high enough to be classified as diabetes.
- By 2050, an estimated 48 million U.S. residents are expected to have diagnosed diabetes.
- Type 2 diabetes, once believed to affect only adults, is increasingly being diagnosed among young people. One in three U.S. children born in 2000 could develop diabetes during their lifetime.
- Among racial/ethnic groups, the rate of diagnosed diabetes is highest among American Indians and Alaska Natives (16.5%), followed by non-Hispanic blacks (11.8%) and Hispanics (10.4%). Among Hispanics, the rate was highest among Puerto Ricans (12.6%), followed by Mexican Americans (11.9%), and Cubans (8.2%).
- Diabetes is a leading cause of kidney failure, new blindness in adults, and leg and foot amputations unrelated to injury.
- Diabetes is a major cause of heart disease and stroke.

The Cost of Diabetes

According to the American Diabetes Association, the estimated total costs of diabetes in the United States in 2007 were:

- Total (direct and indirect) costs: \$174 billion.
- Direct medical costs: \$116 billion.
- Indirect costs (disability, work loss, premature death): \$58 billion.
- Cost of caring for someone with diabetes: 1 in every \$5 of total health care costs. A person with diabetes spent \$11,744 on health care compared to \$5,095 for a person without the disease

Preventing Diabetes and Its Complications

- Foot care programs that include regular examinations and patient education could prevent up to 85% of diabetes-related amputations.
- Blood pressure control reduces the risk of heart disease and stroke among people with diabetes by 33–50% and the risk of eye, kidney, and nerve diseases by about 33%.
- Detecting and treating diabetic eye disease with laser therapy can reduce the development of severe vision loss by an estimated 50–60%.
- Among people with prediabetes, lifestyle changes of at least a 7% weight loss and 150 minutes (2½ hours) of physical activity per week, can reduce the onset of type 2 diabetes by 58% during a 3-year period.



Diabetes Control: A Good Investment

- Intensified blood pressure control can cut health care costs by \$1,200 (2007 U.S. dollars) over the lifetime of a person with type 2 diabetes. It can also extend life by 6 months.
- In just 5 years, a comprehensive foot care program can save \$1200 (2007 U.S. dollars) in health care costs for a person with diabetes who had previous foot ulcers or amputation. Such care prevents amputations.
- Outpatient training to help people self-manage their diabetes prevents hospitalizations. Every \$1 invested in such training can cut health care costs by up to \$8.76.
- Preconception care for women with diabetes leads to healthier mothers and babies. Every \$1 invested in such care can reduce health costs by up to \$5.19 by preventing costly complications.

State Program in Action:

Washington: Using a team approach to improve the quality of care and support of patients with chronic disease

The Washington State Collaborative to Improve Health is a proven strategy for redesigning the health care delivery system for better prevention and management of chronic illnesses such as diabetes. Rather than focusing only on the doctor-patient relationship, the Collaborative—actually a series of six collaboratives—promotes a team approach by joining together primary care providers, patients, and health insurance plans in evidence-based interventions. Since its inception in 2000, more than 150 clinical teams across the state have participated in one or more of the collaboratives.



In 2002, the Washington Diabetes Prevention and Control Program (DPCP), one of the Collaborative's sponsors, developed an electronic registry, a tracking and reporting system to prompt health care providers to follow national diabetes care guidelines. The Chronic Disease Electronic Management System (CDEMS) was designed to help providers improve the care of their patients with diabetes or with other chronic conditions such as heart disease, asthma, and depression. The CDEMS database prints progress notes, patient lists, and summary reports that can be used to improve service delivery and to measure quality improvement efforts. More than 150 health care practices in Washington have used the system to monitor and track the care of at least 60,000 patients with diabetes.

During 2004–2005, 34 clinical teams working with about 4,300 patients participated in Washington State Collaborative 4. Washington's DPCP, which directed the Collaborative, reported improved care, healthier patients, and increased provider satisfaction following this intervention. It also reported improvements in health measures for diabetes control, including blood sugar control and reductions in low-density cholesterol and blood pressure.

For more information and references supporting these facts, please visit www.cdc.gov/nccdphp.

Effective Strategies

CDC provides funding to all 50 states, the District of Columbia and eight current or former U.S. territories through the Diabetes Prevention and Control Programs (DPCP). Here are several examples of the DPCP in action:

- The **Rhode Island** Chronic Care Collaborative (RICCC) is an initiative of the state's DPCP, Quality Partners of Rhode Island, and the Robert Wood Johnson Foundation's Improving Chronic Care Illness Care program. The RICCC, 31 teams representing private physician's offices, hospital-based practices, and community health centers, seeks to improve the quality of diabetes care in primary care settings through accelerated learning, innovation, and change.

As a result of this effort, RICCC diabetes registry data showed that the percentage of patients who developed self-management goals increased from 29.4% in July 2006 to 62.0% in April 2007. In addition, there were increases in the numbers of patients receiving foot exams (29.7%) and dilated eye exams (6.4%).

- More than 130,000 people in **Utah** have diabetes, resulting in more than 20,000 hospitalizations and 1,000 deaths each year. In 1998, the Utah DPCP created the Utah Diabetes Partnership to bring health care organizations together to find common solutions to improve diabetes care in the state.

In 2005, the Utah DPCP reported that 47% of program participants had improved their blood glucose levels (i.e., A1C below 7%), nearly double the rate from 1998; 57% of participants reported having an eye exam, a 37% increase from 1998; and 57% of participants reported having a urine protein test for kidney disease, a 72% increase from 1998.

- The **Massachusetts** DPCP is one of five states receiving CDC funding to establish pilot projects to explore type 2 diabetes primary prevention. The Massachusetts DPCP is partnering with a community-based organization and local employers to conduct prediabetes screenings and implement a 9-week lifestyle program based on the Diabetes Prevention Program. Preliminary outcomes indicate that 43% of those who participated in the program achieved at least a 5–7% weight loss. Moreover, two thirds of those who achieved weight loss goals were physically active for an average of 150 minutes or more per week. These preliminary findings suggest that modest weight loss goals are achievable in a worksite setting.

Hope for the Future

Moderate weight loss and exercise can prevent or delay type 2 diabetes among adults at highest risk for developing the disease. For people living with diabetes, much of this burden could be prevented with improved delivery of care, including regular preventive health care services such as blood pressure, cholesterol, and A1C testing, and diabetes self-management education to provide the resources necessary for people to take action to control their diabetes.