

# Preventing Chronic Diseases: Investing Wisely in Health

## Preventing Diabetes and Its Complications

U.S. DEPARTMENT OF HEALTH AND  
HUMAN SERVICES

### The Reality

- Over 17 million Americans have diabetes, and about one-third of them don't know that they have the disease.
- More than 200,000 people die each year with diabetes-related complications. Diabetes is now the sixth leading cause of death.
- Diagnosed diabetes is projected to more than double by 2050.
- Type 2 diabetes, once believed to affect only adults, is being diagnosed increasingly among young people.
- American Indians, African Americans, and Hispanics are about 2 to 3 times more likely than whites to have diabetes.
- Diabetes is the leading cause of kidney failure and of new blindness in adults. More than 60% of leg and foot amputations unrelated to injury are among people with diabetes.
- Diabetes is a major cause of heart disease and stroke, which are responsible for about 65% of deaths among people with diabetes.
- About 18,000 women with preexisting diabetes deliver babies each year, and 135,000 expectant mothers learn they have gestational diabetes. Diabetes increases a woman's risk for pregnancy complications and increases her child's risk for obesity and diabetes later in life.

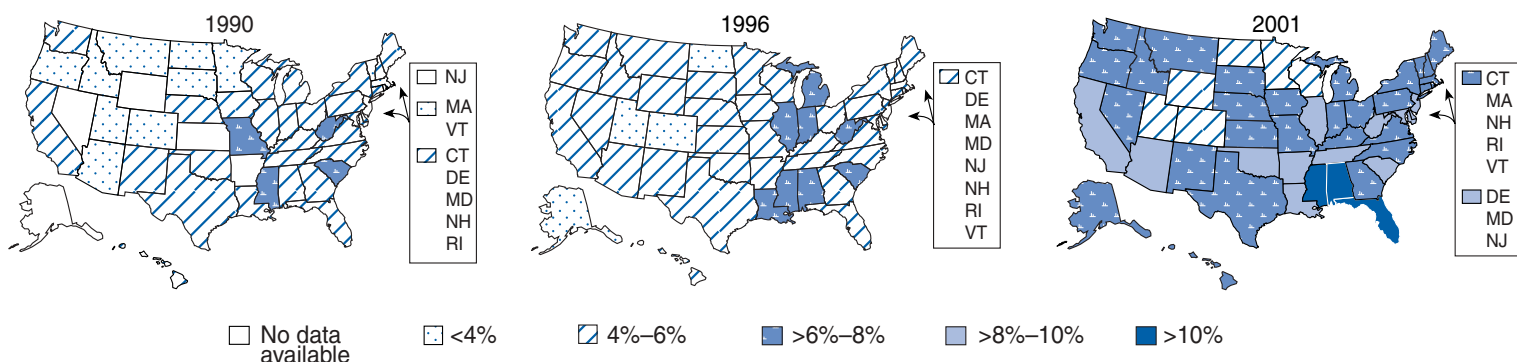
### The Cost of Diabetes

- The estimated economic cost of diabetes in 2002 was \$132 billion. Of this amount, \$91.8 billion was due to direct medical costs and \$39.8 billion to indirect costs such as lost workdays, restricted activity, and disability due to diabetes.
- In 2002, the average medical expenditure for a person with diabetes was \$13,243, or 2.4 times greater than the cost for a person without diabetes.
- In 2002, 11% of national health care expenditures was for diabetes care.

### Diabetes Control Prevents Complications

- Regular eye exams and timely treatment could prevent up to 90% of diabetes-related blindness.
- Foot care programs that include regular examinations and patient education could prevent up to 85% of diabetes-related amputations.
- Treatment to better control blood pressure can reduce heart disease and stroke by 33%–50% and diabetes-related kidney failure by 33%.

### Percentage of Adults With Diagnosed Diabetes\* Increased 61% From 1991 to 2001



\*Includes women with a history of gestational diabetes.  
Source: CDC, Behavioral Risk Factor Surveillance System.



## Diabetes Control: A Good Investment

- Intensified blood pressure control can cut health care costs by \$900 (2000 US dollars) over the lifetime of a person with type 2 diabetes. It can also extend life by 6 months.
- In just 5 years, a foot care program can save \$900 (2000 US dollars) in health care costs for a person with diabetes who has had foot ulcers. 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.

## Effective Strategies

Early detection, improved delivery of care, and better self-management are key for preventing diabetes complications. Here are several examples of these strategies in action:

- CDC, the Health Resources and Services Administration, and other federal partners have established the National Diabetes Collaborative to improve diabetes care by fostering excellence in federally funded health center systems. Since 1999, over 270 health centers have adopted strategies to improve quality of care. In the first year alone, over 60% of diabetes patients at these centers had the A1C blood glucose test twice a year, as recommended. The A1C test is an effective tool for blood glucose control. It detects problems early so that action can be taken to prevent disabling, costly complications.
- By improving the quality of care and self-management practices of people with diabetes in an African American community in Raleigh, North Carolina, Project DIRECT (Diabetes Intervention Reaching and Educating Communities Together) increased the percentage of diabetes patients who received foot care counseling from 20% to 50% in its first year. The project has produced lasting improvements in home blood glucose monitoring, diabetes education, ophthalmology referrals, and vascular exams.

## Hope for the Future

Results from the Diabetes Prevention Program recently showed that a healthy diet and modest, consistent physical activity can cut a person's risk for developing type 2 diabetes by nearly 60%. This is the first major study of Americans at high risk for type 2 diabetes to show that improving diet, increasing physical activity, and losing a little weight can prevent or delay the disease. These scientific results give us real hope that we may ultimately stem the escalating epidemic of diabetes among Americans.

## State Programs in Action

### Minnesota Diabetes Control Program

Established in 1980, the Minnesota Diabetes Control Program (MDCP) has been a leader in reducing the impact of diabetes in Minnesota. The MDCP and HealthPartners, a large Minnesota health plan, have developed a program called IDEAL (Improving Diabetes Care Through Empowerment, Active Collaboration, and Leadership) to improve the quality of diabetes care at primary care clinics. With IDEAL, they have achieved the following benefits for people with diabetes:



**Improvements in blood glucose tests:** Patients' A1C blood glucose levels dropped from 8.6% in 1994 to 7.4% in 1999; the A1C test measures the average level of glucose that has been in a patient's blood over the last 3 months and shows if blood sugar is under control (7% or less) or too high. This decline represents a 75% achievement of the target goal of 7% and translates into a 40% reduction in complications that can lead to blindness, kidney failure, and amputation.

**Improvements in cholesterol levels to reduce heart-related complications:** "Bad" cholesterol (LDL, or low-density lipoprotein) levels have dropped from 132 to 116, a 12% decrease, and "good" cholesterol (HDL, or high-density lipoprotein) levels have risen from 44 to 55, a 25% increase. These changes can reduce heart-related complications by as much as 50%.

**Increases in preventive care medical exams:** Increases have been documented in the percentage of patients having annual foot exams (from 45% in 1994 to 90% in 1999), annual kidney function testing (0% to 82%), and annual eye exams (27% to 60%). These exams lead to the early detection and reduction of costly complications such as blindness, kidney failure, and amputation.

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