NGA Center for BEST PRACTICES

Issue Brief

Health Policy Studies Division
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State Efforts to Prevent and Manage Diabetes

Summary
Diabetes is a costly chronic disease but, with proper education, people can control and hopefully prevent the life-threatening complications that are often associated with the disease. State-based diabetes control programs are critical to a national effort in controlling diabetes. State prevention and control programs can influence broad changes in the community, environment, and health system that can improve the lives of people with diabetes.

- **States help define the burden of diabetes statewide and nationally.** States are the main collectors and analyzers of incidence data. Along with the Centers for Disease Control and Prevention (CDC), states monitor and assist in defining the burden of chronic disease within individual states and educate the medical community on the latest standards of care.
- **States can provide information and education to improve the quality of care for people with diabetes.** By serving as a central reference point for health educators, health care professionals, and the public, states can help control the message on diabetes prevention, care, and treatment.
- **States can coordinate community-based interventions and strategies.** States can build partnerships with community groups, local health departments, and providers to educate and provide care to at-risk populations and to garner community support for care and education.
- **Governors can play a vital role in raising awareness and bringing attention to diabetes.** Governors who take an active role in educating the public on the risk and burden of diabetes can prompt ordinary citizens to evaluate their lifestyles, seek care, and have risk factors examined by their doctors.

Types of Diabetes

Diabetes is classified into two main types: Type 1 and Type 2.

- **Type 1**, also known as juvenile diabetes (insulin-dependent), affects 5 percent to 10 percent of those with diabetes and most often occurs during childhood or adolescence.
- **Type II**, also known as adult onset diabetes (noninsulin-dependent), is the more common type, affecting 90 percent to 95 percent of those with diabetes. Type 2 diabetes usually occurs after age 40.

Diabetes is a National Epidemic

- Diabetes is the seventh-leading cause of death (sixth-leading cause of death by disease) in the United States.
- The death rate of middle-aged people with diabetes is twice as high as middle-aged people without diabetes.
- 5.9 percent of the population has diabetes. One third of those suffering from diabetes are unaware that they have the disease.
- Diabetes is a leading cause of blindness, kidney failure, leg and foot amputations, pregnancy complications, and deaths related to flu and pneumonia.

Sources: Centers for Disease Control and Prevention, *Diabetes: A Serious Public Health Problem 2001*, and National Diabetes Fact Sheet: National Estimates and General Information on Diabetes in the United States.

The Economic Impact of Diabetes
Diabetes is the most costly chronic disease. Diabetes accounts for over $105 billion annually in health care costs in the United States and is responsible for 25 percent of all

Medicare expenditures.[1] The costs associated with treating and managing diabetes take a toll on the economy and on individuals afflicted with the disease.

Cost to the economy

- The total annual economic cost of diabetes in 1997 was estimated to be $98 billion. That includes $44 billion in direct medical and treatment costs and $54 billion for indirect costs attributed to disability and mortality.
- In 1997 diabetes accounted for nearly 88 million disability days. A total of 74,927 workers were reported to be permanently disabled because of diabetes.
- On average, people between the ages of 18 and 64 who have diabetes lost 8.3 days from work annually, compared with 1.7 days for people without diabetes.[2]

Health costs

- In 1997 total health expenditures incurred by people with diabetes amounted to $77.7 billion.
- The per capita cost of health care for people with diabetes amounted to $10,071, while health care costs for people without diabetes amounted to $2,699 in 1997.
- Diabetes is responsible for 5.8 percent of personal health care expenditures in the United States; however, diagnosed diabetes patients account for only 3.8 percent of the total U.S. civilian population.
- Diabetes was responsible for $27.5 billion for inpatient hospital care and $5.5 billion for nursing home care.
- Diabetes-related hospitalizations totaled 13.9 million days in 1997. The mean hospitalization was for 5.4 days. Rates of outpatient care were highest for physician office visits, which included 30.3 million visits by persons seeking treatment for diabetes.

State Diabetes Prevention

State diabetes prevention programs are aimed at reducing the burden of diabetes through early detection and education and improving the health delivery system. Early-detection programs seek to identify people who have diabetes early, when the chances for preventing long-term complications through good diabetes management are greatest. Education programs seek to educate primary care providers and those diagnosed with diabetes on how to manage and control diabetes and prevent further complications of the disease.

How Can Diabetes Be Prevented?

- Early detection, improved delivery of care, and better self-management are key strategies for preventing diabetes and its complications.
- Many people can control their diabetes through a variety of methods, which may include a special diet, exercise, weight loss, medications, and insulin injections.
- Those at risk for developing Type 2 diabetes can lower their risk by as much as 58 percent through a program of moderate, sustained weight loss and moderate daily exercise.

States help define the burden of diabetes statewide and nationally. States are involved in assessing the scope of diabetes in the individual states. States are the main collectors and analyzers of incidence data. States use a variety of sources to collect data, including the Behavioral Risk Factor Surveillance System, Medicaid, vital statistics on diabetes-related deaths and births, local health department statistics, hospital discharge records, and records related to renal disease. States use surveillance data to map out the incidence of diabetes on a county and community basis in order

[1] Juvenile Diabetes Foundation, *Diabetes Facts* (New York: Juvenile Diabetes Foundation, 1998). Available at http://www.jdrf.org/living_w_diabetes/diabetesfacts.php.

[2] American Diabetes Association, *Direct and Indirect Costs of Diabetes* (Alexandria, VA: American Diabetes Association). Available at http://www.diabetes.org/main/info/facts/impact/default2.jsp.

to target efforts and interventions. States feed data on diabetes to the Centers for Disease Control and Prevention (CDC) to help the CDC define the problem nationwide. States also assess their physicians' knowledge, attitudes, and practices on the medical care and management of diabetes.

States can provide information and education to improve the quality of care for people with diabetes. States can serve as a central reference point on diabetes prevention, care, and treatment for health educators, health care professionals, and the public. States can implement educational campaigns to increase public awareness of diabetes, screening, and the latest developments in treatment and prevention.

States also can promote health system improvements and quality of care by providing integrated training to health care providers on current standards of care, improvements in clinical information systems, and promotion of patient self-management skills. Some state diabetes programs issue program measures for clinics and hospitals.

States can coordinate community-based interventions and strategies. States can build partnerships with community groups, local health departments, and providers to educate and provide care to at-risk populations and to garner community support for care and education. Community involvement in diabetes control is essential for mobilizing support for needed environmental changes, providing outreach to at-risk populations, and teaching patients self-management. Community-based interventions work on the principle that community members—people with diabetes and their families, health professionals, and other concerned individuals—can work together to prevent and control diabetes, rather than relying on expensive medical treatment after the complications of diabetes have already developed. The community-based strategies focus on the strengths of communities and their ability to work creatively to deal with the problems caused by diabetes so that, over time, the personal and financial costs of diabetes to individuals, families, communities, states, and the nation will be reduced.

Governors can play a vital role in raising awareness and bringing attention to diabetes. Governors who take an active role in educating the public on the risk and burden of diabetes can prompt ordinary citizens to evaluate their lifestyles, seek care, and have risk factors examined by their doctors. Governors have a greater impact spurring the public to take action if they can attach a personal reference to themselves or a family member.

Governors Tackle Diabetes

Two Governors, Governor George E. Pataki of New York and Governor William J. Janklow of South Dakota have established distinctive diabetes programs for their states. Each Governor designed a program that meets the unique needs of the population in his state. Governor Pataki's program focuses on prevention and control, while Governor Janklow's focuses on screening.

Governor Pataki's Diabetes Program

Governor Pataki has spearheaded initiatives to address the needs of people with diabetes. The New York State Diabetes Control and Prevention Program (DCPP) has implemented a multi-pronged approach that incorporates community coalitions, education campaigns for the public and health professionals, and a special initiative that expands the state's efforts to address the needs of children with diabetes.

The Extent of Diabetes in New York

- Approximately 800,000 people, or 6 percent of the population of New York, have been diagnosed with diabetes.
- An estimated additional 500,000 people with Type 2 diabetes remain undiagnosed.
- In 1999 New York saw 5,014 amputations, at an average cost of $50,000 each. This figure implies that Medicaid, Medicare, and private insurers paid out $251 million in amputations.
- New York sees 2,500 new cases of end-stage renal disease a year, at a cost of $54,000 per case.
- In 1996 there were estimated to be more than 12,000 school-aged children diagnosed with diabetes.
- The New York program is also looking at a growing trend of Type 2 diabetes in youth and for innovative ways to build on the success of the National Diabetes Prevention Program.

- ***Community Coalitions.*** New York sponsors 13 regionally based community coalitions for diabetes prevention. The community coalitions work on outreach to specific at-risk populations; coordinate care and self-care improvements for people with diabetes; conduct screenings for those at high risk; and conduct training for patients, caregivers, and professionals. Funding for the community coalitions is through a combination of state and federal dollars.
- ***Centers of Excellence.*** The state has established three Centers of Excellence to improve the quality of information and care for those with diabetes. In an effort to tap into state expertise and research, New York had medical research centers compete for funding and recognition as a "Center of Excellence." These centers provide information to help patients and families manage diabetes; develop resources and clinical tools for health care professionals and the health care delivery system; and conduct research relevant to the cure, prevention, or improved treatment of diabetes. The centers focus their work on the general population but develop their products for groups with a higher incidence of diabetes. The centers work with the state Medicaid program on initiatives to improve quality of care and health outcomes for those affected by diabetes. The centers also partner with community groups, such as the American Diabetes Association, Juvenile Diabetes Research Foundation, American Association of Diabetes Educators, and New York State Association of Health Plans, to improve outcomes for various populations.
- ***The Governor's Initiative for Children with Diabetes.*** Launched in Governor Pataki's 1999 State of the State address, this initiative teams comprehensive diabetes centers, schools, local chapters of the Juvenile Diabetes Research Foundation and the American Diabetes Association, hospitals, and managed care organizations to improve the availability and quality of diabetes care and information for school-age children, their families, and appropriate school personnel. Four school-based community partnerships were given grants worth $200,000 each year to help prevent and control diabetes among New York's young population. Additionally, two resource manuals, one for families of children with diabetes and one for schools, were produced and distributed to over 50,000 New Yorkers. These resource manuals provide practical tools and information for children and caregivers on how to manage diabetes and were the basis for training over 2,500 school nurses last year.

Since 1997 New York has spent nearly $2 million of state and federal funding per year on diabetes prevention and control. The state has received funding from the Centers for Disease Control and Prevention (CDC) for a "comprehensive" diabetes control and prevention program. States funded for this program are expected to implement diabetes interventions on a statewide basis or focus very intensive interventions on a narrowly defined geographical region. CDC funding has allowed New York to build on expertise, science, and policy areas to control and prevent diabetes; expand systems to define and analyze the scope of the diabetes problem within the state; improve access to diabetes care for all people and raise the quality of that care; use statewide public health projects to reduce diabetes-related problems; and inform, educate, and empower external supporters to control and prevent diabetes.

The Extent of Diabetes in South Dakota

- It is estimated that 40,000 people, over 7 percent of the adult population of South Dakota, has diabetes.
- About two-thirds of those are diagnosed by their physician, leaving approximately one third, or 2.5 percent of South Dakota's adult population, undiagnosed and unaware of their condition.
- Diabetes kills 200 people a year in South Dakota.
- In 1997 diabetes was responsible for 35 new cases of blindness, 160 lower-extremity amputations, and 88 new cases of end-stage renal disease.
- The direct medical costs and indirect costs due to diabetes-related lost productivity and premature mortality in South Dakota totaled $257.2 million in 1997.

Governor Janklow's Diabetes Screening Project

In October 2000 Governor Janklow announced he had been diagnosed with diabetes. He expressed his interest in reaching as many South Dakotans as possible who

also have the disease but have not been diagnosed. As a result, he directed the Department of Health to organize a statewide event that would target undiagnosed diabetes by offering a diabetes risk assessment test, free blood-glucose testing, free blood pressure checks, and referrals to medical care for those with elevated blood glucose and high blood pressure levels.

To start his program, Governor Janklow included $500,000 in his budget to help cover the costs of purchasing testing supplies and promoting the initiative. The Governor also mailed letters soliciting support to 600 potential partners, such as health care organizations, media, and business groups. The Governor persuaded three manufacturers of diabetes testing products, Roche Diagnostics Corporation (Accu-Check), Abbott Laboratories (Precision), and Johnson & Johnson (Lifescan), to donate testing strips and monitors. A Web site was established (http://www.sddiabetes.net) to provide information about diabetes, offer a brief risk assessment, and list the screening sites and participating partners. In addition, an advertising agency was contracted to develop promotional materials for the event.

The event was held April 22 through April 28, 2001. Over 31,000 South Dakotans were screened in over 500 separate events across the state. The diabetes screening project found:

- 9 percent of those screened, with no previous diagnosis of diabetes, had elevated blood-glucose levels, a common precursor of diabetes;
- 34 percent had an elevated blood pressure level, a common precursor for hypertension;
- 51 percent received a score indicating a high risk for developing diabetes; 11 percent of those who scored “high risk” subsequently had elevated blood-glucose levels; and
- 18 percent received a follow-up referral to primary care.

Federal Role in Diabetes Prevention

The Centers for Disease Control and Prevention, Diabetes Control Program (DCP) has been at the center of all state diabetes programs. The CDC funds all 50 states and the territories to improve health systems to ensure quality diabetes care in existing and evolving health systems; develop community interventions that seek to enhance and support diabetes prevention and control recommendations; and incorporate consumer research and social marketing strategies in the design and delivery of relevant diabetes health messages. This CDC program has been very successful at leveraging ideas, direction, and funding from different parts of the country, and it has begun to see improvement in preventive health care practices. The state DCPs do not provide direct patient care to individual persons with diabetes or provide screening of asymptomatic individuals. Rather, DCPs are meant to be catalysts in bringing about broad changes in the community, environment, and health system that will improve the lives of persons with diabetes.

Conclusion

Diabetes is a costly chronic disease but, with proper education, people can control and hopefully prevent the life-threatening complications that are often associated with the disease... State diabetes prevention and control programs are aimed at improving the statewide capacity to prevent and control the disease. These programs provide the national framework for implementing public health strategies related to diabetes.

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