Bending the curve on diabetes
Physician engagement can improve outcomes
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The American Diabetes Association’s (ADA) slogan is “Stop Diabetes.” If this is really possible, why is the prevalence of diabetes increasing at epidemic proportions? The number of people with diabetes in the United States increased by 17 million people from 1958 to 2010, according to the U.S. Department of Health and Human Services; more than 8 percent of the American population has type 2 diabetes now, and one in three children born after 2000 will develop diabetes unless strong preventive steps are taken. Furthermore, due to the insidious nature of the disease, by the time the diagnosis is made, many people have had the disease for anywhere from nine to 12 years, resulting in the presence of complications in as many as 39 percent of those with newly diagnosed diabetes. And we know that those who are at risk for diabetes are at similar risk for cardiovascular disease and peripheral vascular disease as those who have diabetes.

The Minnesota Department of Health (MDH) reports that every year 20,000 Minnesotans are newly diagnosed with diabetes. Our goal is to bend the curve on the rising incidence of diabetes. There are a number of reasons to work hard at preventing diabetes. One important reason is the cost of having diabetes, including the cost of health care visits and tests, diabetes medications, and supplies.

Additionally, people with diabetes often have more health problems than those without diabetes. Other health problems associated with the disease increase the cost of health care, as they may require more expensive tests, medications, and hospitalizations. In Minnesota, diabetes costs almost $3 billion a year—about $12,000 for every person with diabetes. According to the ADA, health care costs for people with diabetes are three to four times higher than the costs for people without diabetes.

There are also emotional costs associated with diabetes. In fact, 20 percent of Minnesotans who have diabetes also have depression, which can negatively influence diabetes management and self-care behaviors.

Health professionals who care for people with diabetes understand the harm and costs of diabetes. At the same time they may be frustrated that they have little time to spend on diabetes care when patients present with multiple health issues. Identifying people at risk of developing diabetes—i.e., those with prediabetes—and knowing what resources are available can help physicians work with patients before the most serious complications of the disease develop.

Warning signs of type 2 diabetes and prediabetes
There is strong evidence that type 2 diabetes can be prevented or delayed. The warning signs of diabetes listed in the patient handout on the next page help identify which adults and children are at risk.

In Minnesota, the most frequent risk factor is being overweight.

More than 1 million people in Minnesota have prediabetes, but only 20 percent know they have it. That means 80 percent do not know that they have this health problem, are not addressing it, and are at increased risk of developing type 2 diabetes. Table 1 lists the latest criteria for diagnosing diabetes and prediabetes.

Evidence for preventing diabetes
The National Institutes of Health-sponsored Diabetes Prevention Program (DPP) was stopped early because the results in one of the treatment groups were so dramatic that it would be irresponsible if the successful intervention was not offered to all study participants. The intervention that decreased participants’ risk of developing type 2 diabetes by 58 percent was a 16-session lifestyle education/suppo1nt program. The primary goals were for participants to:

- lose 5 to 7 percent of current body weight—about 10 pounds
- moderately exercise for a total of 30 minutes a day, five days a week

Some people think this is easy, but for most people it is not easy. Structured programs that guide and support individuals have proven to be very helpful.

Patients’ perspectives
A 2009 ADA survey showed that people at high risk of developing diabetes report they follow a poor diet (67 percent), maintain an unhealthy weight (62 per-
cent), and avoid doctors’ visits (50 percent). Admittedly, changing unhealthy behaviors is not easy for many people, yet research shows that change can occur when knowledge and barriers are addressed. In the 2009 survey, more than half of the respondents mistakenly stated that “eating too much sugar” is a risk factor for diabetes. On their own, patients may try to eliminate sugar yet end up consuming more calories because they consume more high-fat foods. Others may mistakenly replace sugary soda pop with fruit juice, unaware that regular juice is very high in sugar, and thus achieve no reduction in sugar, carbohydrate, or caloric intake.

If losing body weight was easy, two-thirds of the American population would not be overweight or obese. Providing accurate information and support can help patients develop healthier eating and activity patterns that can reduce their risk—and physicians do not need to do all of this themselves.

Minnesota action
The Minnesota Diabetes Plan 2015 focuses on stemming the tide of the diabetes epidemic and improving diabetes care. The plan encompasses expanding and easing access to care, education, and food, and increasing accountability for care coordination, referring patients to appropriate resources, supporting diabetes self-management skills in prevention of type 2 diabetes, and making effective diabetes prevention programs (DPPs) available statewide.

Minnesota has been a leader in piloting prevention programs. The state is now facilitating access to these programs while also actively supporting additional programs so all Minnesotans have easy access to diabetes prevention services. The Diabetes Program at the MDH provides a current listing of group diabetes prevention programs in Minnesota, including contacts, dates, locations, and costs of participation (go to www.icanpreventdiabetes.org/groups.html).

Three 16-week DPP programs currently are offered in Minnesota:
- Lifestyle Balance for American Indians (offered through the Indian Health Board in Minneapolis and tribal communities)
- I CAN Prevent Diabetes (offered throughout the state with coordination by MDH)
- Y-DPP (offered by the metro-area, Willmar, and Alexandria YMCAs)

The I CAN Prevent Diabetes program has demonstrated that people who attend 80 percent or more of the 16-week session are more successful than those that don’t. The average weight loss for people who attend 13 or more sessions has been 6 percent but only 4 percent for those attending 12 or fewer sessions.

Other prevention programs are available in Minnesota and may be offered by registered dietitians, diabetes education programs, or community groups. Although the effectiveness of these programs may be untested or less vigorously tested, many have been successful.

Action steps for physicians
Behavior change is a long-term process and physician engagement in setting expectations, making a referral, providing support and monitoring attendance, process and outcomes is key to success. Here are steps physic-

| TABLE 1. ADA diagnostic criteria for prediabetes and diabetes |
|---------------------|---------------------|---------------------|
|                    | Normal              | Prediabetes         | Diabetes            |
| A1c                 | ≤5.6                | 5.7–6.4             | ≥6.5                |
| Fasting plasma      |<100             |100–125             |≥126                |
| glucose (mg/dL)     |                   |                   |                    |
| 2 hr 75 gm OGGTT    |<140             |140–199             |≥200                |
| (mg/dL)             |                   |                   |                    |
| Random plasma glucose (mg/dL) |<140 | N/A              |>200 and classic diabetes symptoms |
| Confirm diagnosis of diabetes on a subsequent day unless there is evidence of unequivocal hyperglycemia.