

## Maine Diabetes Prevention & Control Program

### Diabetes and Prediabetes are Major Health Issues in Maine

Diabetes is the leading cause of kidney failure, nontraumatic lower extremity amputations and new cases of blindness.<sup>1</sup> It is also a major cause of heart disease and stroke<sup>1</sup> and is the 7th leading cause of death in Maine.<sup>2</sup> Recent survey data estimate that 8.3% of the adult population in Maine have been diagnosed with diabetes.<sup>3</sup> In addition, an estimated 3.1% of Maine adults have diabetes but do not know it. Based on these estimates, 11.4% of Maine adults have diabetes.

Diabetes	Percentage of Maine Adults	Total Number of Maine Adults
Diagnosed	8.3	87,232
Not diagnosed	3.1	32,264
<b>Total</b>	<b>11.4</b>	<b>119,469</b>

Data Source: Behavioral Risk Factor Surveillance System

Prediabetes is a condition in which blood glucose levels are higher than normal, but not high enough for the diagnosis of diabetes. In 2005–2008, 35% of U.S. adults aged 20 years or older had prediabetes based on fasting glucose or A1c levels.<sup>1</sup> Only 6% of Maine adults say they have been diagnosed with prediabetes,<sup>3</sup> but the true prevalence is likely closer to the national estimate of 35%, because many adults are not being diagnosed or clearly told they have prediabetes. Adults with prediabetes are at an increased risk of developing type 2 diabetes, heart disease and stroke.<sup>1</sup>

### The Onset of Type 2 Diabetes can be Delayed or Prevented

Research has shown that modest lifestyle changes such as losing weight, increasing physical activity and quitting smoking can prevent or delay the onset of type 2 diabetes among high-risk adults.<sup>1</sup> Treatment with medications can also reduce the risk of developing type 2 diabetes and may be appropriate for some people at high risk.<sup>1</sup>

### Diabetes can Lead to Serious Complications

Diabetes can lead to serious complications, including cardiovascular disease, nontraumatic lower extremity amputations, blindness, kidney failure, dental disease and death:

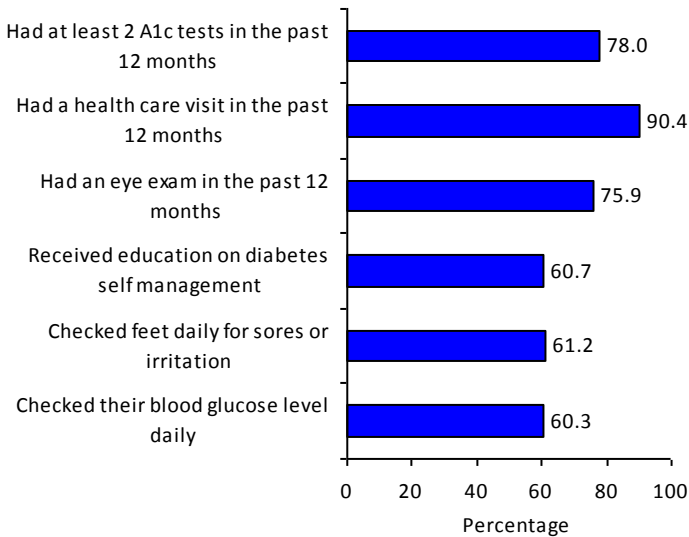
- ◆ **Cardiovascular Disease (CVD):** People with diabetes are two to four times more likely to die from heart disease or to have a stroke than people without diabetes.<sup>1</sup> In 2009, one in four Mainers (25.6%) hospitalized for CVD also had diabetes.<sup>4</sup>
- ◆ **Nontraumatic Lower Extremity Amputations (LEAs):** More than 60% of nontraumatic LEAs occur among adults with diabetes.<sup>1</sup> Among Maine adults, the age-adjusted nontraumatic LEA hospitalization rate due to diabetes was 2.8 per 1,000 population with diagnosed diabetes in 2009.<sup>4</sup> This rate is lower than the Healthy People 2020 baseline rate of 3.5 per 1,000 population with diagnosed diabetes.
- ◆ **Diabetic Retinopathy:** Diabetes is the leading cause of new cases of blindness among adults aged 20–74 years. The National Eye Institute estimates that 40–45% of adults diagnosed with diabetes have some form of diabetic retinopathy.<sup>5</sup>
- ◆ **End Stage Renal Disease (ESRD):** Diabetes is the leading cause of kidney failure.<sup>1</sup> In 2008, 43.4% of all new cases of ESRD in Maine occurred among people with diabetes.<sup>6</sup> In Maine, the age-adjusted incidence rate of ESRD due to diabetes has improved, decreasing significantly between 1996 and 2007 from 184.6 to 108.3 per 100,000 population.<sup>4</sup>
- ◆ **Dental Disease:** Adults aged 45 years or older with poorly controlled diabetes are almost 3 times more likely to have severe gum disease than those without diabetes. The risk of gum disease is even higher among smokers with poorly controlled diabetes.<sup>1</sup>
- ◆ **Deaths Attributed to Diabetes:** Diabetes is the 7th leading cause of death in Maine. Progress has been made in reducing deaths due to diabetes in Maine. The Maine age-adjusted death rate due to diabetes as an underlying cause decreased from 27.0 per 100,000 population in 2002 to 20.9 per 100,000 population in 2008. Over the same time period, the age-adjusted death rate due to diabetes as any listed cause decreased from 83.1 to 65.1 deaths per 100,000 population.<sup>2</sup>



## Diabetes Complications can be Prevented or Reduced

Many complications from diabetes can be avoided or reduced through diabetes self-management education programs and regularly scheduled medical consultations that focus on diabetes care. Data show that while 90.4% of Maine adults diagnosed with diabetes reported at least one health care visit in the past year, fewer reported other diabetes control practices (Figure 1).<sup>2</sup>

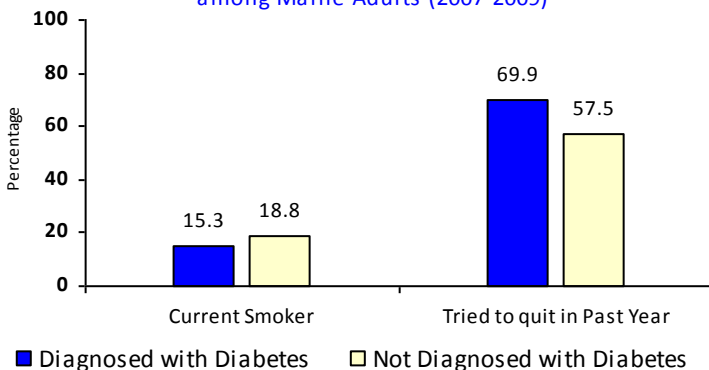
Figure 1. Preventive Practices among Maine Adults with Diabetes, 2007-2009



## Smoking Increases Diabetes Risk

Cigarette smoking increases the risk of type 2 diabetes. People with diabetes who smoke dramatically increase their risk of cardiovascular disease and other diabetes complications.<sup>7</sup> Quitting smoking is crucial to controlling blood sugar and preventing complications. The prevalence of smoking among Maine adults with diabetes (15.3%) is significantly lower than those without diabetes (18.8%). Among Maine smokers who have diabetes, 69.9% have tried to quit smoking in the past year, which is significantly higher than the 57.5% of smokers without diabetes who have tried to quit in the past year (Figure 2).<sup>2</sup>

Figure 2. Smoking Prevalence and Quit Attempts among Maine Adults (2007-2009)



## Maine is Making Progress in Fighting Diabetes

Beginning in 1977, and continuing to the present, the Maine Diabetes Prevention and Control Program has managed a statewide program responsible for a wide variety of activities to reduce the morbidity, mortality and associated cost burdens of diabetes in the state. Maine is making progress in limiting the increase in diabetes prevalence and reducing deaths, hospitalizations and serious complications due to diabetes. Over the years, there has been a decrease in the rate of ESRD and deaths due to diabetes in Maine. The age-adjusted diabetes-related hospitalization rates increased from 130.9 per 10,000 population in 1993 to 163.8 per 10,000 population in 2004. However, since then the rates have remained stable and slightly decreased to 155.6 per 10,000 population in 2009.<sup>4</sup>

### Technical Notes:

<sup>1</sup> Centers for Disease Control and Prevention. National Diabetes Fact Sheet:

General Information and National Estimates on Diabetes in the United States, 2007. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2008. Available at: [http://www.cdc.gov/diabetes/pubs/pdf/ndfs\\_2007.pdf](http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2007.pdf).

<sup>2</sup> Maine Mortality Data; Office of Data, Research, and Vital Statistics, Maine CDC.

<sup>3</sup> Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2007-10.

<sup>4</sup> Maine Inpatient Database, Maine Health Data Organization.

<sup>5</sup> National Eye Institute, National Institutes of Health. Facts about Diabetic Retinopathy. Available at: <http://www.nei.nih.gov/health/diabetic/retinopathy.asp>

<sup>6</sup> U.S. Renal Data System, USRDS 2010 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2010. Appendix A-8, A-9. Available at <http://www.usrds.org/reference.htm>

<sup>7</sup> U.S. Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010. Pg. 383-387.

Available at: <http://www.surgeongeneral.gov/library/tobaccosmoke/index.html>



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