Diabetes in Minnesota

For more diabetes data, please visit the full Diabetes in Minnesota report on the World Wide Web: http://www.health.state.mn.us/diabetes/diabetesinminnesota/

Scope of the Problem
One in four Minnesotans either have diabetes or are at high risk of developing it.\(^1\)\(^2\)
- 333,000 Minnesotans have diabetes; 233,000 have been diagnosed but 100,000 remain undiagnosed.
- 1,033,000 Minnesotans have impaired fasting glucose (IFG), a form of pre-diabetes but only 1 in 5 know they have pre-diabetes.


Each year, more than 27,000 Minnesotans are newly diagnosed with diabetes. This means that every 20 minutes in Minnesota, a doctor tells someone for the first time that they have diabetes.

Source: Estimated incidence is based on National Health Interview Survey (1997-2004) and the 2006 Minnesota population.

Diabetes is the 6th leading cause of death in Minnesota.
- Every 2 ½ hours someone in Minnesota dies from diabetes or diabetes-related causes.
- Diabetes contributed to 3,995 deaths last year; of these, diabetes was the direct cause of 1,259 deaths.\(^3\)

Source: 2005 Minnesota death certificates.

Risk Factors
Among adult Minnesotans without diabetes, significant, common and potentially modifiable risk factors place many at risk for developing diabetes.
- 3 in 5 are overweight or obese.
- 1 in 2 have sedentary lifestyles.
- 1 in 7 have no leisure time physical activity.
- 1 in 5 are current smokers.


Screening
Early diagnosis of diabetes and pre-diabetes is important to prevent long-term complications.
- 3 in 5 Minnesotans without diabetes report having their blood glucose tested in the past three years.


Preventive Care
Among Minnesotans with diabetes:
- 9 in 10 see a doctor/nurse at least annually for diabetes.
- 7 in 10 see a dentist or dental hygienist annually.
- 9 in 10 had their HbA1c tested in the past year.
- 8 in 10 persons 35+ years of age regularly use aspirin.
- 9 in 10 had their cholesterol checked in the past year.
- 8 in 10 had a dilated eye exam in the past year.
- 9 in 10 had a foot exam in the past year.
- 2 in 3 had a flu shot in the past year.
- 6 in 10 have ever had a pneumonia vaccination.
- 6 in 10 check their blood glucose at least once per day.
- 3 in 4 have ever had a diabetes self-management class.


Long Term Complications
The risk of cardiovascular disease (CVD) and stroke are 2 to 4 times higher in people with diabetes.
- Over half of all Minnesotans with diabetes have been told by a doctor they have high blood pressure.
- CVD is present in nearly 4 out of every 5 diabetes-related deaths in Minnesota.

Source: Minnesota Behavioral Risk Factor Surveillance Survey (BRFSS) and 2005 Minnesota death certificates.

Diabetes is the leading cause of non-traumatic lower extremity amputations (LEAs). Among Medicare beneficiaries in Minnesota, the rate of LEAs is almost 13 times greater in persons with diabetes compared to persons without diabetes.


Diabetes is the leading cause of blindness among people 20-74 of age.
- Approximately 45,000 Minnesotans ages 18 and older have diabetic retinopathy.
- Approximately 4,300 Minnesotans have diabetes-related blindness.
- Each year, between 600 and 900 Minnesotans lose their sight due to complications of diabetes.

Source(s): Estimated prevalence of diabetic retinopathy from 2006 Minnesota Behavioral Risk Factor Surveillance Survey (BRFSS). Estimated prevalence and incidence of diabetes-related blindness are based on the Massachusetts State Commission for the Blind (MCB) registry and the Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR).\(^4\)
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Diabetes is the leading cause of end-stage renal disease (ESRD), or kidney failure.
- Diabetes accounts for nearly 2 of every 5 new cases of ESRD treatment annually.
- In 2005:
  - There were 487 new cases of ESRD treatment among Minnesotans with diabetes
  - 2,385 Minnesotans with diabetes were being treated for ESRD (estimate of prevalence).
  - There are marked racial and ethnic disparities in ESRD in Minnesota.

<table>
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<tr>
<th>Race/Ethnicity</th>
<th>Cases per million</th>
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<td>433</td>
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</table>


Mothers and Infants
- Diabetes is the leading medical risk factor of pregnancy in Minnesota. In 2005, pre-existing diabetes mellitus (PDM) complicated 349 live births to Minnesota residents, while gestational diabetes mellitus (GDM) complicated 2,846 Minnesota births.
- Babies born to Minnesota mothers with pre-existing diabetes have twice the risk of congenital anomalies and perinatal death.
- There are marked racial and ethnic disparities in diabetes-complicated pregnancy.

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<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Per 1,000 Live Births</th>
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<tr>
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Management and Prevention
- Blood glucose control reduces the risk of long-term complications for people with type 1 and type 2 diabetes.
  - Sources: Diabetes Control and Complications Trial (1993); United Kingdom Prospective Diabetes Study (1998).

- Blood pressure control reduces the risk of complications, including stroke and heart failure, for people with type 2 diabetes.
  - Source: United Kingdom Prospective Diabetes Study (1998).

- Blood lipid control reduces the risk of heart failure and death for people with heart disease and diabetes or impaired fasting glucose levels.

- Diabetes should be carefully managed before and during pregnancy to reduce maternal and infant complications.
  - Source: ADA Clinical Practice Recommendations

- Being active, eating healthfully, and losing a little weight (about 10%) sharply lowers the risk for developing type 2 diabetes among those at highest risk. The Diabetes Prevention Program showed that lifestyle changes are more effective than oral diabetes medications at preventing or delaying the onset of diabetes (58% vs. 31% reduction in risk).

For more information on diabetes management and prevention, please visit the Minnesota Diabetes Program’s site on the World Wide Web: http://www.health.state.mn.us/diabetes/

Technical Notes
1. The Minnesota BRFSS is an annually administered telephone survey among randomly sampled Minnesota residents 18 years or older. The prevalence of diagnosed diabetes is assessed with the question: “Has a doctor ever told you that you have diabetes?”

2. Estimates derived from national surveys—National Health Interview Survey (NHIS) and the National Health and Nutrition Examination Survey 1999-2002 (NHANES 1999-2002)—are based on a national sample, which may vary slightly from the Minnesota population.

3. Vital statistics may seriously underestimate diabetes prevalence and mortality. Surveys have found that diabetes is under-reported both as a cause and a contributing condition of death. Diabetes is mentioned on only about 40% of all death certificates among people with diagnosed diabetes. Diabetes may be reported for only 40%-75% of all live births to mothers with pre-existing (PDM) or gestational diabetes (GDM).

4. The Massachusetts State Commission for the Blind (MCB) registry includes those 20 years or older; the Wisconsin Epidemiologic Study of Diabetic Retinopathy (WESDR) includes all ages. Though estimates provided in this report assume they are the same, these populations may differ from the Minnesota population.

Economic Cost
Diabetes costs Minnesota $2.7 billion annually, including medical care, lost productivity and premature mortality.