



The Impact of Diabetes in Arizona

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One in 10 adults in Arizona have type 2 diabetes (T2), 1 in 3 adults have prediabetes, and most (90%) don't know they have this disease. T2 is a costly disease and reducing the risk of T2 involves coordinated efforts to encourage healthier lifestyles. The National Diabetes Prevention Program is an initiative by the Centers for Disease Control and Prevention (CDC) shown to reduce the risk of developing T2 by half. This evidence-based education program promotes modest weight loss, healthy eating, and physical activity.



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Overview Of Diabetes

There are three major types of diabetes, but in general diabetes is a chronic disease in which the body cannot properly use sugar. The body requires sugar for growth and to maintain functions and produce energy. Sugar consumed in foods and beverages is digested and transported into the blood. When sugar is absorbed into the blood stream, it needs help from insulin to move into the cells of the body's tissues. Insulin is a hormone normally released from the pancreas in response to consuming sugar. Insulin works as the key signal for cells to take up sugar from the bloodstream. However, people with diabetes have pancreatic defects which lead to a lack of insulin or insulin inefficiency which results in high blood sugar levels. High blood sugar levels can lead to serious complications and premature death if not controlled.

Major Types Of Diabetes

Type 1 Diabetes

Type 1 (T1) diabetes is a chronic disease that typically develops in adolescence. People who have T1 diabetes have defects in their pancreas which makes them unable to produce insulin. These people typically have to inject insulin regularly in order to maintain normal blood sugar levels.¹

Type 2 Diabetes

Type 2 (T2) diabetes is estimated to account for 90-95% of all diagnosed cases of diabetes. T2 diabetes is a chronic disease which typically develops in adults later in life. It is diagnosed when the body is unresponsive to insulin and is unable to regulate normal blood sugar levels, leading to high levels of blood sugar.¹

Gestational Diabetes

Develops in a small percentage of pregnant women and typically subsides when the pregnancy is over. It is similar to T2 diabetes in that the body does not respond to insulin. Gestational diabetes increases a woman's chances of developing T2 diabetes later in life.¹

Prediabetes

Prediabetes is the precursor to T2 diabetes. In people with prediabetes, the body is beginning to become resistant to insulin.¹ This means each time insulin is released, the cells of the body are less likely to respond to insulin, resulting in high levels of sugar in the bloodstream. In order to compensate for the high levels of blood sugar, the pancreas tries to release more insulin into the blood. Consequently, this makes the body's cell even more resistant to insulin.

Over time this accumulation of blood sugar can lead to T2 diabetes. However, through healthy lifestyle changes such as diet and physical activity, prediabetes is reversible and the risk of developing T2 diabetes can be cut in half.

T2 And Prediabetes In America

T2 diabetes in the United States has become a health epidemic and is a serious public health concern. Currently, diabetes is the seventh leading cause of death in the United States. It is estimated 30.3 million people have diabetes and 7.2 million of these people have not been formally diagnosed.¹ Prediabetes, however, is much more common in the United States, affecting an estimated 84.1 million Americans. Unfortunately, most Americans do not know they have prediabetes. It is estimated 9 out of 10 Americans are unaware they have prediabetes.¹

T2 Diabetes In Arizona



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Diabetes has become a serious concern for the state of Arizona. Approximately 600,000 adults in Arizona have been diagnosed with diabetes, or 10.1% of the Arizona adult population.² However, these statistics do not include people who have not been diagnosed or those who have prediabetes, which means that the prevalence of diabetes could be even higher.

Risk Factors

There are several factors that may put people at higher risk of developing T2 Diabetes.

These risks factors include¹:

- Overweight or obese
- 45 years of age or older
- Having a parent or sibling with Type 2 Diabetes
- Physically active less than 3 times a week
- A history of gestational diabetes
- African American, Hispanic/Latino, American Indian, or Alaska Native

Table 1. Prevalence of Diagnosed Diabetes among Arizona adults*, by County

County	Diabetes diagnosed (%)
Apache	15.3
Cochise	9.8
Coconino	7.5
Gila	11.8
Graham	9.9
Greenlee	9.2
La Paz	13.7
Maricopa	8.5
Mohave	11.9
Navajo	12.4
Pima	8.5
Pinal	12.5
Santa Cruz	6.9
Yavapai	10.4
Yuma	10.7

*Adults over the age of 18 in the State of Arizona.²

Symptoms

Some of the most common symptoms of T2 diabetes include¹:

- Frequent urination
- Extremely thirst
- Weight loss
- Increased hunger
- Blurry vision
- Numbness in hands or feet
- Fatigue
- Dry skin
- Sores are hard to heal
- Infections are more common

If a person has one or more risk factors or is experiencing the symptoms listed above, they should talk to their doctor about getting tested for T2 diabetes.

Getting Tested



Source: pixabay.com

There are four types of blood tests used to diagnose prediabetes and T2 diabetes. A doctor or health care professional may use one or a combination of the three to determine a diagnosis. Hemoglobin A1C Test reflects the average of blood sugar levels in the past 2 to 3 months.¹ Fasting Blood Sugar Test measures blood sugar levels after not eating for 8 – 12 hours (an entire night). The glucose tolerance test measures blood sugar both prior and after consuming a sugary drink. The glucose tolerance test takes a blood sample at 1, 2 and 3 hours after consuming the sugary drink.¹ Hour 2 is used to determine diagnoses. A random blood sugar test measures blood glucose without fasting or eating and can be taken at any time.¹ See Table 2 for the cutoffs for diagnosing diabetes and prediabetes with blood tests.

Table 2. Blood test levels for diagnosis of diabetes and prediabetes.

Blood Test Result	AC1 Test	Fasting Blood Sugar Test	Glucose Tolerance Test (at hour 2)	Random Blood Sugar Test
Normal	Below 5.7%	99 mg/dL* or below	140 mg/dL or below	
Prediabetes	5.7-6.4%	100-125 mg/dL	140-199 mg/dL	
Diabetes	6.5% or above	126 mg/dL or above	200 mg/dL or above	200 mg/dL or above

* mg = milligrams; dL = deciliter

Medical Complications of Diabetes

People with diabetes are at increased risk of serious health problems including¹:

- Heart attack
- Stroke
- Blindness
- Kidney failure
- Loss of toes, feet, or legs

Diabetes is now the seventh leading cause of death in the U.S., and those who are diagnosed with Type 2 diabetes have a lower life expectancy.

Costs

Diabetes is an extremely costly disease for Arizona and for the United States as a whole. In the United States, direct and indirect costs (including medical costs and loss of work productivity) are \$245 billion yearly.¹ The annual medical costs for people who have diabetes can be up to 2 times greater than those who do not have diabetes.¹ In 2013 in Arizona, approximately \$3.1 billion was spent on direct costs and \$5 billion on indirect* costs of diabetes, for a total cost of over \$8 billion.³

*The CDC defines indirect costs as “absenteeism, presenteeism, household productivity losses, inability to work, and premature mortality.”

Prevention



Source: AdobeStock File# 169974219

Making healthy lifestyle choices is the best way to decrease the risk of type 2 diabetes. Having healthy exercise levels and eating a healthy diet are two of the most effective ways to reduce the risk and even reverse the chances of developing type 2 diabetes.¹ Doing recommended amounts of regular physical activity is important. For example, try increasing your exercise by simply adding 15 minutes of exercise each day. Eating a healthy diet is also another key to preventing diabetes. A healthy diet consists of low amounts of fat and added sugars, moderate amounts of lean protein, and plenty complex carbohydrates such as those found in vegetables and whole grains.¹ See “Tools and Resources” below for recommendations and tips for increasing physical activity and eating a healthy diet.

The National Diabetes Prevention Program

Learning how to manage these lifestyle changes can be difficult, which is why the CDC developed a program to give people with prediabetes the tools to take control of their health. The CDC-led National Diabetes Prevention Program was developed to help people at risk make lifestyle changes to prevent or delay T2 diabetes and other serious health problems. The program promotes a 5-7% reduction in body weight by increasing exercise to 150 minutes a week and adopting healthy eating habits. These changes can lower the risk of developing T2 diabetes by as much as 58%.⁴

Key components of the program include:

- CDC-approved lessons and other resources to help participants make healthy changes.
- Specially trained lifestyle coach to help participants learn new skills, encourage them set and meet goals, and keep them motivated.
- Support group of people with similar goals and challenges. Together, this group can share ideas, celebrate successes, and work to overcome obstacles.

The University of Arizona Cooperative Extension is part of the National Diabetes Prevention Program. Visit <https://extension.arizona.edu/diabetes-prevention> to find a class in your county. To find other National Diabetes Prevention Program offerings near you visit the CDC National Diabetes Prevention Program website and under the “Find a Class Location” section enter your zip code or select the state or territory in which you live. nccd.cdc.gov/DDT_DPRP/Programs.aspx

If you would like to find out if you may be at risk for T2 diabetes, there are online quizzes or risk assessments through the CDC or the American Diabetes Association that you can complete to get a risk assessment score.

- CDC Prediabetes Screening Test: www.cdc.gov/diabetes/prevention/prediabetes-type2/preventing.html
- American Diabetes Association Type 2 Diabetes Risk Test www.diabetes.org/are-you-at-risk/diabetes-risk-test/

Tools and Resources

Diabetes Information

- Arizona Department of Health Services - Diabetes Program: www.azdhs.gov/prevention/tobacco-chronic-disease/diabetes/index
- Centers for Disease Control and Prevention - Diabetes Basics: www.cdc.gov/diabetes/basics/index.html
- Centers for Disease Control and Prevention - National Diabetes Prevention Program: www.cdc.gov/diabetes/prevention/index.html
- National Institute of Diabetes and Digestive and Kidney Diseases - Diabetes Overview: www.niddk.nih.gov/health-information/diabetes/overview

Information about Making Healthy Lifestyle Changes / Preventing T2 Diabetes

- Preventing Type 2 Diabetes (National Institute of Diabetes and Digestive and Kidney Diseases): www.niddk.nih.gov/health-information/diabetes/overview/preventing-type-2-diabetes
Includes “Your Game Plan to Prevent Type 2 Diabetes” with tips and resources for setting goals, increasing physical activity and eating healthier.
- Lower Your Risk (American Diabetes Association): <http://www.diabetes.org/are-you-at-risk/lower-your-risk/>
Includes simple steps for lowering risk of T2 diabetes such as “Small Steps for Your Health”

- ChooseMyPlate.gov (United States Department of Agriculture): www.choosemyplate.gov
Includes tips, recipes and other resources for healthy eating and physical activity
- Physical Activity (Centers for Disease Control and Prevention): www.cdc.gov/physicalactivity/index.html
Includes physical activity guidelines for different age groups, data, resources and publications.

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