

# DIABETES

## Overview

Diabetes is a disease in which the blood sugar level is abnormally high. Two types of diabetes exist. Type 1 diabetes develops when the body's immune system destroys the cells that regulate blood sugar. Type 1 diabetes accounts for 5% to 10% of all cases and there is no known prevention. Type 2 diabetes begins as insulin resistance, a disorder in which the cells do not use insulin properly and accounts for 90% to 95% of all cases. Type 2 diabetes is associated with obesity and physical inactivity. Diabetes can lead to serious complications including cardiovascular disease (see *Cardiovascular Disease*), kidney disease, blindness, nerve damage, limb amputation, skin damage and depression.<sup>19</sup>

As obesity has increased, the frequency of diabetes has also increased in the U.S. Currently, 25.8 million people are living with diabetes. The percentage of adults with diabetes in Colorado has doubled since 1990. More than 15% of Colorado adults aged 65 and older have diabetes.<sup>20, 21</sup> More than 23,000 Denver residents are living with diagnosed diabetes, with the highest rates in the western and northern parts of the city (FIGURE 1). Diabetes deaths are also primarily in those same areas (FIGURE 2). The diabetes mortality rate within Denver during the past 10 years is very similar to the Colorado rate and shows no significant improvement or decline over time (FIGURE 3). Type 2 diabetes is more common among Blacks and Hispanics and the risk of death due to diabetes is also much higher in these groups (FIGURE 4).

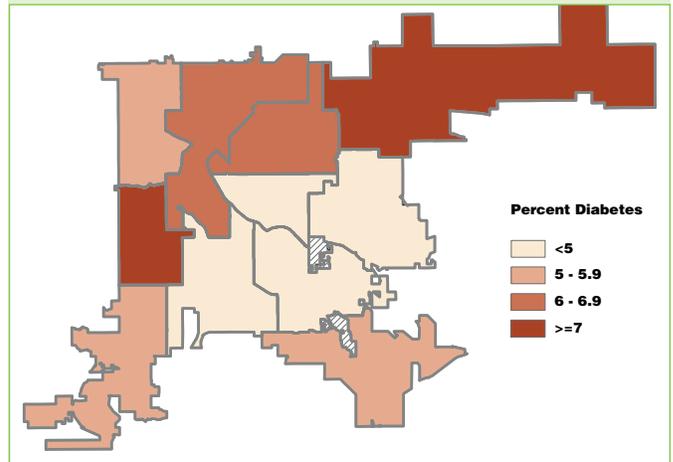


## Cost Facts

- One in 10 U.S. health care dollars is spent on diabetes and its complications.<sup>21</sup>
- In 2007, the total U.S. annual cost of diabetes was estimated to be \$174 billion. Of this, \$116 billion were for direct medical expenses. Another \$58 billion was for indirect costs resulting from lost workdays, restricted activity, death, and disability.<sup>21</sup>
- In 2009, Denver metro area inpatient hospital charges for diabetes treatment were \$42 million.<sup>23</sup>
- Medical costs for those with diabetes are 2.3 times higher than those without diabetes.<sup>21</sup>

FIGURE 1

Percentage of Adults Who Have Ever Been Told by a Doctor They Have Diabetes DENVER, 2005 - 2010

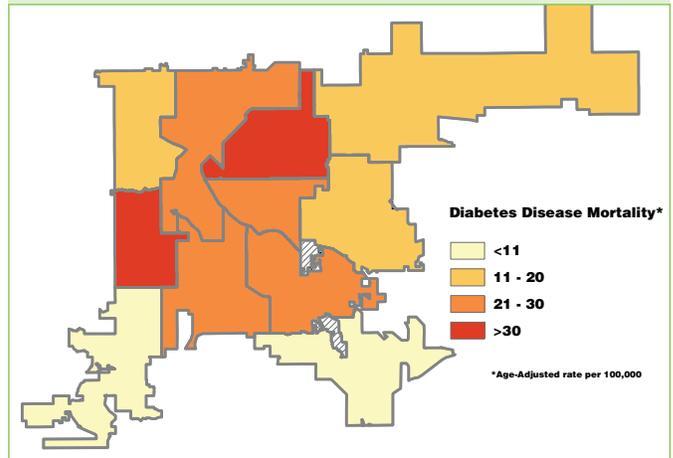


Diabetes rates are not equal across Denver. Areas in the north and west have higher rates. These are areas with lower income and more diverse populations.

SOURCE: Behavioral Risk Factor Surveillance System

FIGURE 2

Diabetes Disease Deaths DENVER, 2010



The number and rate of people dying from diabetes is not equal across Denver. The west and north central portions of the city have higher rates.

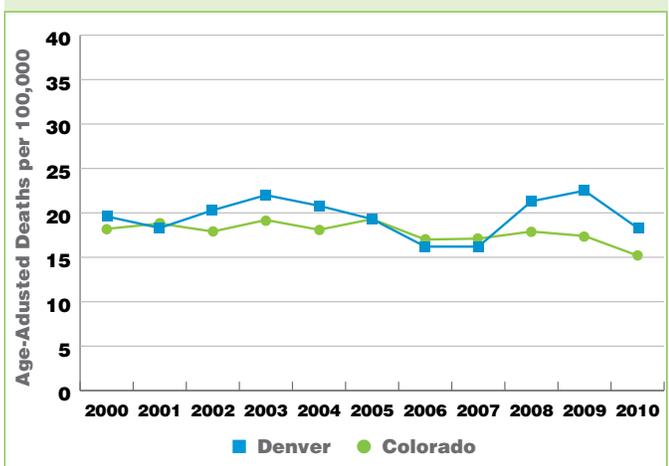
SOURCE: Vital Statistics

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The problem of diabetes is even larger than these figures suggest. Diabetes is known as the “hidden” disease, because those with Type 2 diabetes can feel well despite having a high blood sugar level. An estimated seven million people in the U.S. have undiagnosed diabetes.<sup>21</sup>

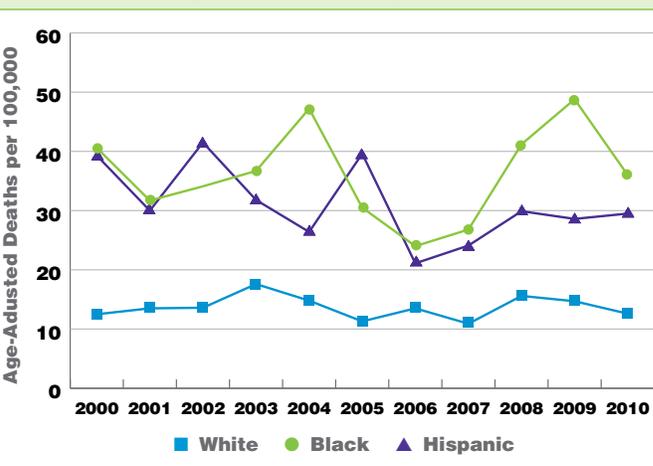
People with diabetes can control the disease and lower their risk of complications with diet, exercise, and medical treatment. Moderate weight loss and exercise can prevent or delay Type 2 diabetes among adults. A recent study found that an individual’s risk for diabetes declined by more than 30% by adding each low-risk lifestyle factor, including a healthier diet, more exercise, and avoiding alcohol and cigarettes.<sup>22</sup>

**FIGURE 3**  
**Diabetes Deaths DENVER AND COLORADO, 2000 - 2010**

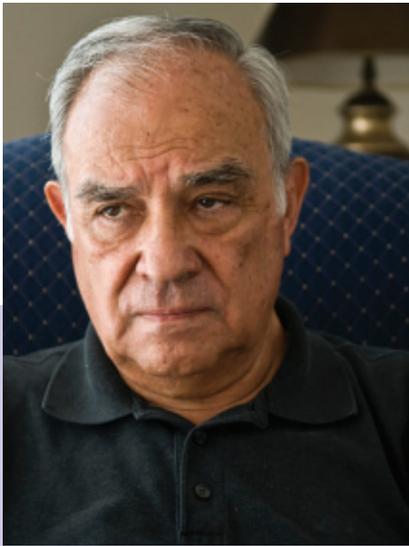


Diabetes deaths in Denver have been relatively stable for the past 10 years. The rates are similar to those for the entire state.  
*SOURCE: Vital Statistics*

**FIGURE 4**  
**Diabetes Deaths by Race and Ethnicity DENVER, 2000 - 2010**



Diabetes deaths are significantly higher for Hispanic and Black populations than White populations within Denver.  
*SOURCE: Vital Statistics*



## Local Story

### Living with Diabetes

Mr. L had a family history of diabetes, was overweight, and was found once to have high blood pressure. However, he avoided doctors since he “felt fine” and had seen relatives put on dialysis by doctors treating their diabetes. Mr. L was eventually forced to go to the hospital when he suffered a heart attack. He was found to have advanced eye and kidney disease, likely a result of many years of untreated diabetes.

Ms. K attended a clinic in her mid-20’s because she was concerned about her family history of diabetes. Although she had no symptoms and was only mildly overweight, her blood sugar was elevated, putting her at risk for diabetes. She cut out sweetened beverages and began exercising for 30 minutes three times weekly. She visits her primary care physician every six months and continues to live free of diabetes 10 years later.

## Comparison Story

### The Chronic Disease Self-Management Program

Learning to live with a chronic disease can be difficult. To help, Stanford University developed the Chronic Disease Self-Management Program. This program is a six-week workshop held weekly in community settings.<sup>24</sup> Churches, community centers, libraries, hospitals, and recreation centers are gathering points. People with chronic health conditions meet and learn techniques on dealing with pain and appropriate medication use. Participants also learn about nutrition, exercise and strength-building, and improving communication. In addition to the class, participants receive a book and relaxation audio tape. After collecting data for more than 1,000 participants, the classes and materials improved some social and health measures. They also reduced the number of hospitalizations and medical visits, as well as costs. This program has expanded to locations throughout the U.S., including Colorado.



### Did You Know

- One in 400 children or adolescents has diabetes in the U.S.<sup>21</sup>
- Diabetes is the leading cause of blindness, kidney failure, and lower-limb amputations.<sup>21</sup>
- Only 10% of people with diabetes have their disease well controlled through routine blood tests, medication, and blood pressure checks. Diabetes control includes controlling blood pressure, blood sugar levels, and cholesterol.<sup>25</sup>