

United States' Diabetes Crisis: Today and Future Trends

A recently released study² and the 2011 National Diabetes Fact Sheet⁶ from the Centers for Disease Control and Prevention (CDC) predict a dramatic increase in diabetes between 2010 and 2050. Using this new information from the CDC, the Institute for Alternative Futures diabetes model estimates that the number of Americans living with diabetes (diagnosed and undiagnosed) will increase 64% by 2025 from 32,300,000 to 53,100,000.¹ The resulting medical and societal cost of diabetes will be \$514.4 billion – a 72% increase from 2010.¹

In 2010, there were 32,300,000 people in the United States with diabetes.¹ Some 12,000,000 of them were undiagnosed¹ and possibly beginning to suffer from the common complications of diabetes, including eye, kidney, lower extremity, and heart damage.³ Another 79,016,000 people had pre-diabetes,¹ a condition in which the blood sugar level is higher than normal but not yet in the range for diabetes.⁴ If they do not take action, individuals with pre-diabetes can progress to diabetes within 10 years.⁴

Diabetes is frequently associated with obesity, high blood pressure, high cholesterol, and depression.^{4,5} It can result in many debilitating complications⁶ and shorten life span by about 4 to 23 years depending on age, sex, and ethnicity.⁷ About 68% of deaths among seniors with diabetes are due to heart disease and 16% are due to a stroke related to their disease.⁶ In 2010, there were 3,676,300 people in the United States who were visually impaired, some even blind, because of diabetes.¹ Another 52,100 developed kidney failure, and 70,000 people underwent lower extremity amputations as a result of their diabetes.¹ On the whole, diabetes contributed to more than 281,400 deaths.¹ The total cost of diabetes in the United States, including medical expenses and lost productivity, was \$299.3 billion in 2010.¹

The risk of developing diabetes is much higher as one gets older, especially after the age of 45.⁸ There were 40,229,000 seniors²⁴ living in the United States in 2010 and approximately 77% of them had either diabetes or pre-diabetes.⁶ Of the 10,821,600 seniors living with diabetes in 2010, some 7,901,000 had diagnosed diabetes and another 2,920,600 had diabetes that had not yet been diagnosed¹ and was possibly beginning to cause organ damage.³ The 20,115,000 seniors in the United States with pre-diabetes¹ also were largely unaware of their condition⁹ and continue to have a significant risk of eventually developing diabetes.⁴

The American Diabetes Association recommends that testing for diabetes be considered for adults of any age who are overweight or obese and also have one or more risk factors for diabetes. For those without these risk factors, testing should begin at age 45. If test results are normal, repeat testing should occur at least every three years.¹⁰ The risk of diabetes increases as one gets older,⁸ so it is especially important for seniors to be tested for diabetes – a benefit that Medicare now covers.¹¹

We now understand more about delaying or even preventing the onset of diabetes as well as how to effectively treat it, resulting in a dramatic reduction of complications and premature death.^{12,13,14} In fact, many scientific studies have shown that relatively simple lifestyle changes, such as modest weight loss and increases in regular physical activity, can often prevent those most at risk, including those with pre-diabetes, from developing diabetes, or significantly delay the onset of the disease.^{14,15} If 50% of people with pre-diabetes successfully made lifestyle changes, it could reduce the number of new cases of

diabetes in the United States by about 334,000 next year.^{1,2,14} Between now and 2025 that would be a reduction of over 4,700,000 people with diabetes with a cumulative savings of more than \$300 billion.¹ Likewise, if 50% of the people with diagnosed diabetes received high quality medical care and complied with their doctors' recommendations, the number of lower extremity amputations could be reduced by over 22,000 per year and result in 369,000 fewer amputations by 2025.^{1,6} Similarly, 305,000 fewer people could develop end-stage renal failure by 2025.^{1,6} However, even with these interventions, there would still be over 48,400,000 people living with diabetes in the United States.¹

U.S. Diabetes Data and Forecasts¹	2000	2010	2015	2025
Entire U.S. Population	281,422,000	310,233,000	325,540,000	357,452,000
Pre-diabetes	41,003,000	79,016,000	82,915,000	91,043,000
Diagnosed diabetes	12,266,000	20,300,000	26,600,000	38,700,000
Undiagnosed diabetes	5,257,000	12,000,000	13,100,000	14,400,000
Total with diabetes (diagnosed and undiagnosed)	17,523,000	32,300,000	39,700,000	53,100,000
Complications:				
Visual impairment	2,527,300	3,676,300	4,709,600	6,655,400
Renal failure	42,400	52,100	63,000	83,100
Leg amputations	82,000	70,000	78,300	97,900
Annual deaths attributable to diabetes	213,100	281,400	341,900	419,100
Total annual cost (2010 dollars)*	\$135.2 B	\$299.3 B	\$373.7 B	\$514.4 B
Annual medical costs	\$93.0 B	\$213.3 B	\$264.1 B	\$360.5 B
Annual nonmedical costs	\$42.2 B	\$86.0 B	\$109.6 B	\$153.9 B

* Costs in 2000 only for diagnosed diabetes, other years also include undiagnosed and pre-diabetes costs

2010 U.S. Diabetes Statistics for Seniors (65 & older) and Minorities¹					
Subgroups	Seniors	African Americans	Hispanic Americans	Asian Americans	Native Americans
Population	40,229,000	40,951,000	48,551,000	14,426,000	4,033,000
Pre-diabetes	20,115,000	10,430,000	12,366,000	3,674,000	1,027,000
Diagnosed diabetes	7,901,000	3,486,600	3,409,800	869,400	343,400
Undiagnosed diabetes	2,920,600	2,061,100	2,015,700	514,000	203,000
Total diabetes (diagnosed and undiagnosed)	10,821,600	5,547,700	5,425,500	1,383,400	546,400
Complications:					
Visual impairment	1,607,800	624,100	613,800	158,200	61,500
Renal failure	20,250	14,150	10,600	1,730	1,390
Leg amputations	27,180	17,150	16,780	2,290	1,690
Annual deaths attributable to diabetes	109,520	79,330	55,580	7,580	6,690
Total annual cost	\$105.7 B	\$49.8 B	\$49.8 B	\$13.0 B	\$4.9 B
Annual medical costs	\$74.3 B	\$35.0 B	\$35.4 B	\$9.3 B	\$3.4 B
Annual nonmedical costs	\$31.4 B	\$14.8 B	\$14.4 B	\$3.7 B	\$1.5 B

Reducing the future burden of diabetes in the United States depends upon the promotion of targeted screening for asymptomatic adults to identify those with pre-diabetes and undiagnosed diabetes, improved access to quality medical care, and increased patient compliance with therapy.^{14,15,16} However, halting the “twin epidemics” of diabetes and obesity will also require fundamental change in all segments of society, including greater access to opportunities for physical activity in our schools, workplaces, and communities and a significant shift in the American diet away from sugar, salt, refined carbohydrates,

and saturated fats and toward more fruits and vegetables.¹⁵ In short, we all play an important role in conquering diabetes.

These forecasts are based on available national diabetes data, including population projections extrapolated to the state, and the CDC's 2011 National Diabetes Fact Sheet and latest diabetes prevalence projections to 2050. They assume a steady, but conservative, reduction in the number of people with complications due to better awareness of the risks of diabetes, earlier screening and intervention, and more effective therapies.

For endnote references and details on the Institute for Alternative Futures Diabetes 2025 Forecasting Model Methodology, visit www.altfutures.org/diabetes2025.

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