

## Pittsburgh's Diabetes Crisis: Today and Future Trends

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### Pittsburgh Metropolitan Statistical Area (MSA)

The Pittsburgh Metropolitan Statistical Area spans seven counties in Pennsylvania with a population of 2,338,200.<sup>25,26</sup>

A recently released study<sup>2</sup> and the 2011 National Diabetes Fact Sheet<sup>6</sup> 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 people living with diabetes (diagnosed and undiagnosed) in the Pittsburgh Metropolitan Statistical Area will increase 30% by 2025 from 247,700 to 321,600.<sup>1</sup> The resulting medical and societal cost of diabetes will be \$3.1 billion – a 35% increase from 2010.<sup>1</sup>

In 2010, there were 247,700 people in the Pittsburgh MSA with diabetes.<sup>1</sup> Some 92,000 of them were undiagnosed<sup>1</sup> and possibly beginning to suffer from the common complications of diabetes, including eye, kidney, lower extremity, and heart damage.<sup>3</sup> Another 595,500 people had pre-diabetes,<sup>1</sup> a condition in which the blood sugar level is higher than normal but not yet in the range for diabetes.<sup>4</sup> If they do not take action, individuals with pre-diabetes can often progress to diabetes within 10 years.<sup>4</sup>

Diabetes is frequently associated with obesity, high blood pressure, high cholesterol, and depression.<sup>4,5</sup> It can result in many debilitating complications and shorten life span by about 4 to 23 years depending on age, sex, and ethnicity.<sup>7</sup> About 68% of deaths among seniors with diabetes are due to heart disease and 16% are due to a stroke related to their disease.<sup>6</sup> In 2010, some 28,300 people in the Pittsburgh MSA were visually impaired, some even blind, because of diabetes.<sup>1</sup> That year diabetes also caused 350 cases of renal failure and 455 lower extremity amputations.<sup>1</sup> On the whole, diabetes contributed to more than 1,910 deaths.<sup>1</sup> The total cost of diabetes in the Pittsburgh MSA, including medical expenses and lost productivity, was \$2.3 billion in 2010.<sup>1</sup>

The risk of developing diabetes is much higher as one gets older, especially after the age of 45.<sup>8</sup> There were 402,200 seniors<sup>27</sup> living in the Pittsburgh MSA in 2010 and approximately 77% of them had either diabetes or pre-diabetes.<sup>6</sup> Of the 108,200 seniors living with diabetes in 2010, some 79,000 had diagnosed diabetes<sup>1</sup> and another 29,200 had diabetes that had not yet been diagnosed<sup>1</sup> and was possibly beginning to cause organ damage.<sup>3</sup> The 201,100 seniors in the Pittsburgh MSA with pre-diabetes<sup>1</sup> also were largely unaware of their condition<sup>9</sup> and continue to have a significant risk of eventually developing diabetes.<sup>4</sup>

The American Diabetes Association recommends that testing for diabetes be considered in adults of any age who are overweight or obese and also have one or more risk factors for diabetes. In 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.<sup>10</sup> The risk of diabetes increases as one gets older,<sup>8</sup> so it is especially important for seniors to be tested for diabetes – a benefit that Medicare now covers.<sup>11</sup>

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.<sup>12,13,14</sup> 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.<sup>14,15</sup> If 50% of people with pre-diabetes successfully made these lifestyle changes, it could reduce the number of new cases of diabetes in the Pittsburgh MSA by about 2,500 a year.<sup>1,2,14</sup> Between now and 2025 that would be a reduction of about 29,300 people with diabetes with a cumulative savings of about \$1.9 billion.<sup>1</sup> 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 about 170 per year and result in 2,200 fewer amputations by 2025.<sup>1,6</sup> Similarly, 1,800 fewer people could develop end-stage renal failure by 2025.<sup>1,6</sup> However, even with these interventions, there would still be 292,300 people living with diabetes in the Pittsburgh MSA.<sup>1</sup>

<b>Pittsburgh Metro Diabetes Statistics<sup>1</sup></b>	<b>2000</b>	<b>2010</b>	<b>2015</b>	<b>2025</b>
<b>Population</b>	2,431,100	2,338,200	2,306,000	2,210,100
<b>Pre-diabetes</b>	354,200	595,500	587,300	562,900
<b>Diagnosed diabetes</b>	104,000	155,700	188,100	234,400
<b>Undiagnosed diabetes</b>	44,500	92,000	92,600	87,200
<b>Total with diabetes (diagnosed and undiagnosed)</b>	148,500	247,700	280,700	321,600
<b>Complications:</b>				
<b>Visual impairment</b>	21,400	28,300	33,400	40,400
<b>Renal failure</b>	320	350	390	440
<b>Leg amputations</b>	685	455	475	495
<b>Annual deaths attributable to diabetes</b>	1,610	1,910	2,150	2,260
<b>Total annual cost (2010 dollars)*</b>	\$1.1 B	\$2.3 B	\$2.6 B	\$3.1 B
<b>Annual medical costs</b>	\$0.8 B	\$1.6 B	\$1.8 B	\$2.2 B
<b>Annual nonmedical costs</b>	\$0.3 B	\$0.7 B	\$0.8 B	\$0.9 B

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

<b>2010 Pittsburgh Metro Diabetes Statistics for Seniors (65 &amp; older) and Minorities<sup>1</sup></b>					
<b>Subgroups</b>	<b>Seniors</b>	<b>African Americans</b>	<b>Hispanic Americans</b>	<b>Asian Americans</b>	<b>Native Americans</b>
<b>Population</b>	402,200	198,700	35,100	42,100	4,700
<b>Pre-diabetes</b>	201,100	50,600	8,900	10,700	1,200
<b>Diagnosed diabetes</b>	79,000	17,700	2,600	2,700	415
<b>Undiagnosed diabetes</b>	29,200	10,500	1,500	1,600	245
<b>Total diabetes (diagnosed and undiagnosed)</b>	108,200	28,200	4,100	4,300	660
<b>Complications:</b>					
<b>Visual impairment</b>	16,100	3,200	470	490	75
<b>Renal failure</b>	200	70	8	5	2
<b>Leg amputations</b>	270	85	13	7	2
<b>Annual deaths attributable to diabetes</b>	1,100	400	42	24	8
<b>Total annual cost</b>	\$1.1 B	\$252 M	\$38 M	\$40 M	\$6 M
<b>Annual medical costs</b>	\$0.8 B	\$177 M	\$27 M	\$29 M	\$4 M
<b>Annual nonmedical costs</b>	\$0.3 B	\$75 M	\$11 M	\$11 M	\$2 M

Reducing the future burden of diabetes in the Pittsburgh MSA 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.<sup>14,15,17</sup> 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.<sup>15</sup> 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](http://www.altfutures.org/diabetes2025).**

*Research funded by Novo Nordisk Inc.*