The economic burden of diabetes increased 48% since 2007

A recent study published in Diabetes Care estimates the economic burden of elevated blood glucose levels in the United States to be more than $322 billion in 2012.\(^1\)

While the burden of diagnosed diabetes was documented in research conducted by the American Diabetes Association and published in Diabetes Care in December 2014, this study considers the additional burden of undiagnosed diabetes, prediabetes, and gestational diabetes. The economic burden is defined as the excess costs due to health care use and medical expenditures above the expected levels in individuals without diabetes or prediabetes.

“The prevalence of diabetes is projected to grow substantially in the coming decades due to population growth, aging, and increasing racial and ethnic diversity, which portends large increases in the associated economic burden.”\(^1\)

The $322 billion figure for 2012 represents a 48% increase from the 2007 estimate of $218 billion.\(^1\)

In their analysis, the researchers used medical claims data for commercially insured patients, Medicare beneficiaries, and inpatient hospital records, each including data for millions of individuals.

You can access the full study here.
Diabetes prevention lifestyle intervention shows long-term societal benefit

A recent study published in the *American Journal of Preventive Medicine* examined the value of lifestyle interventions for individuals with prediabetes. Using a simulation model, the researchers demonstrated that lifestyle intervention produces a long-term societal benefit greater than the expected costs of the intervention.2

The researchers used data from the National Health and Nutrition Examination Survey, including 3,700 adults with prediabetes from 2003-2010.2 They then used a Markov model to simulate disease progression between scenarios of participation in the lifestyle intervention modeled on the Diabetes Prevention Program versus the natural history of the disease.2

In the scenario without the lifestyle intervention, 32.5% of the prediabetes population developed diabetes within 10 years and the average per capita medical expenditures over the 10 years was $73,900.2 In the group with the lifestyle intervention, over 10 years, the researchers found that the intervention:2

- Reduced amputation by 63%
- Reduced blindness by 40%
- Reduced diabetes onset by 41%
- Reduced stroke by 36%
- Reduced heart attack by 35%
- Reduced congestive heart failure by 33%
- Reduced ischemic heart disease by 22%
- Reduced mortality by 20%
- Reduced medical expenditures by 9%

The researchers point out that screening costs of $18.50 and intervention program costs of $2,300 over 10 years are outweighed by the total societal benefit of $17,800-$26,800 per person over 10 years.2 Much of the societal benefit was concentrated toward the end of the 10-year window, suggesting the cumulative benefits of the intervention continue to increase over time.2

You can access the full study here.

“Our work suggests that relatively inexpensive diabetes lifestyle treatment programs can reduce the social and economic burden among this population.”2

JAGDISH SHAH
Jagdish has type 2 diabetes
ADA lowers its BMI cut point for diabetes screening for Asian Americans

The American Diabetes Association (ADA) published a position statement in the January 2015 edition of *Diabetes Care*, amending its screening recommendations for Asian Americans. Specifically, the ADA acknowledges physiologic differences in diabetes progression between Asian Americans and other populations, which necessitate screening at a lower Body Mass Index (BMI).³

In the general population, the ADA recommends screening for diabetes in individuals with a BMI of 25 kg/m² or greater. However, based on evidence that Asian Americans are at increased risk for diabetes at a lower BMI, the ADA now recommends screening for Asian Americans with a BMI of 23 kg/m² or higher. The lower BMI cut point for Asian Americans reflects the ADA’s thorough review of the literature on this topic.³

“The position statement highlights, for the first time, the physiologic differences seen between Asian Americans and other populations affected by diabetes,” said Jane Chiang, the Association’s Senior Vice President for Medical Affairs and Community Information. “Asian Americans are a heterogeneous group and have historically been underrepresented in studies, so it is important to keep in mind that this is just the beginning. Clearly, we need more research to better understand why these distinctions exist.”³

For more information about the ADA position statement, click here.

Researchers quantify excess spending attributable to diabetes

A recent study published in *Diabetes Care* examined medical spending growth over time, comparing medical expenditures for individuals with diabetes to the expenditures for those without diabetes. The researchers used the National Medical Expenditure Survey for 1987 and the Medical Expenditure Panel Surveys for 2000-2001 and 2010-2011. For each of the 3 survey years, spending was compared between people with diabetes and without diabetes. Spending was also broken down into the type of medical service—inpatient care, outpatient visits, prescription drugs, emergency room visits, and so on. All spending was adjusted for inflation and converted to 2012 dollars.⁴

The researchers found that while spending increased overall during this time, the excess medical spending attributed to diabetes doubled.⁴

<table>
<thead>
<tr>
<th>Year</th>
<th>Excess Medical Spending Attributed to Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>$2,588</td>
</tr>
<tr>
<td>2000-2001</td>
<td>$4,205</td>
</tr>
<tr>
<td>2010-2011</td>
<td>$5,378</td>
</tr>
</tbody>
</table>

While the largest absolute increase was spending on prescription medications over the study period, in relative terms, spending on emergency room visits grew faster than spending on prescription medications, increasing by more than 5 times.⁴

You can access the study here.
USPSTF focuses on children and adolescent health, and addresses diabetes, in fourth report to Congress

The U.S. Preventive Services Task Force (USPSTF) submitted its fourth annual report to Congress in November 2014, highlighting evidence gaps and recommending focus areas.

In this report, the USPSTF prioritized improving the care of children and adolescents. The priorities were organized into 7 categories:

1. Mental Health Conditions and Substance Abuse
2. Obesity and Cardiovascular Health
3. Behavior and Development
4. Infectious Disease
5. Cancer Prevention
6. Injury and Child Maltreatment
7. Vision Disorders

The report discusses how many chronic health conditions develop during childhood and suggests that pediatric health care providers should focus on risk factors related to diabetes, cancer, heart disease, and stroke.

Under the obesity and cardiovascular health section, the report explains how children and adolescents with obesity are at greater risk of developing type 2 diabetes. The report suggests the need for further research on obesity prevention interventions to identify the specific components of the interventions that are most effective.

USPSTF points out that strengthening the evidence base on children’s health can yield significant results, as this population has many years ahead of them.

You can access the full report here.

"The USPSTF believes that identifying evidence gaps and highlighting them as priority areas for research will inspire public and private researchers to collaborate and target their efforts to generate new knowledge and address important health priorities."
Older adults enrolled in Medicare using preventive services but could increase uptake

A study recently published in *Health Affairs* examined the impact of expanded preventive service coverage in Medicare under the Affordable Care Act (ACA) on the utilization of these services by beneficiaries in the San Francisco area.

Under the ACA, in 2011 Medicare began covering an annual wellness visit at no cost to Medicare fee-for-service beneficiaries. This visit would be covered annually, different from the previous “Welcome to Medicare” one-time visit. Medicare Advantage plans typically cover preventive visits, and the ACA did not alter wellness visits for Medicare Advantage plans or beneficiaries.\(^6\)

The annual wellness visit typically covers:\(^6\)

- Review of patient’s medical and family history
- Biometric measurements, including blood pressure and BMI
- Screening for cognitive impairment, functional ability, and depression
- Development of a written schedule for screening and preventive services
- Discussion of end-of-life care

The researchers compared the change in utilization of wellness visits between Medicare fee-for-service beneficiaries, Medicare Advantage enrollees, and seniors with private insurance from 2007 through 2013. The researchers utilized electronic health record (EHR) data from the Palo Alto Medical Foundation, which serves roughly 800,000 patients in 4 counties near San Francisco, California.\(^6\)

The researchers discovered that prior to 2011, only 1.4% of Medicare fee-for-service beneficiaries used the annual preventive care visit (Welcome to Medicare). After ACA implementation, 27.5% of fee-for-service beneficiaries used the new annual wellness visit.\(^6\)

This increase among fee-for-service beneficiaries greatly exceeded the increase in utilization among Medicare Advantage and private insurance seniors, but the approximated utilization rates of this group still remained significantly lower than those with private coverage (44%) or those in a Medicare HMO (53%).\(^6\)

The researchers acknowledged the importance of preventive visits and expanded coverage of these visits under Medicare. The researchers suggest that policymakers focus on reducing the disparities of preventive visit utilization among insurance groups for seniors.\(^6\)

You can access the study [here](#).
CMS awards $660 million enrolled in round two of State Innovation Model Initiative

In December, CMS announced the second round of awards for the State Innovation Models (SIM) Initiative. Overall, 32 awards totaling over $660 million were awarded to states and territories to either design or test their models to transform health care.  

The SIM Initiative provides support to states to develop and test innovative multi-payer payment and delivery models. The goal of the models is to increase the quality of care, increase health system performance, and decrease costs for Medicare, Medicaid, and Children’s Health Insurance Program (CHIP) beneficiaries, as well as all state residents.

Each award is either designated for the “design” phase or the “test” phase for the state’s respective model. In round one, the majority of participating states worked on designing their models, and in round two will transition to implementing the models.

For example, Ohio is receiving $75 million to test its State Health Care Innovation Plan, which will rapidly expand the use of patient-centered medical homes (PCMHs) and episode-based models. Episode-based models encourage coordinated, team-based care by setting an overall provider payment for all care related to a specific health condition or procedure. Ohio plans to launch 50 episodes of care over the next 4 years and to expand PCMHs throughout the state. Additionally, Ohio is striving to promote population health by including measures in its regulatory and payment systems.

Over $622 million of the approximate $660 million second round funding will go to 11 states for the testing phase of their models. See below for the state awardees and associated amounts. New York is receiving the largest award of $100 million.

<table>
<thead>
<tr>
<th>State</th>
<th>Award Amount (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>$65</td>
</tr>
<tr>
<td>Connecticut</td>
<td>$45</td>
</tr>
<tr>
<td>Delaware</td>
<td>$35</td>
</tr>
<tr>
<td>Idaho</td>
<td>$40</td>
</tr>
<tr>
<td>Iowa</td>
<td>$43</td>
</tr>
<tr>
<td>Michigan</td>
<td>$70</td>
</tr>
<tr>
<td>New York</td>
<td>$100</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>$20</td>
</tr>
<tr>
<td>Ohio</td>
<td>$75</td>
</tr>
<tr>
<td>Tennessee</td>
<td>$65</td>
</tr>
<tr>
<td>Washington</td>
<td>$65</td>
</tr>
</tbody>
</table>

Over $40 million will go to 21 states and territories to design and refine their State Innovation Models. Over the next 12 months, these states and territories will work with a wide range of health care stakeholders and ultimately submit their State Health Care Innovation Plans to CMS.

For more information about the round two awards and the State Health Care Innovation Plans, visit here.
Elevated risk for specific cancers among individuals with type 1 and type 2 diabetes

A recent study published in *Diabetes Care* examined the relationship between diabetes and cancer, finding significant relationships between cancer incidence and diabetes diagnosis, for both type 1 and type 2 diabetes, and across a number of different cancer types.9

The researchers used data from over 900,000 registrants of the National Diabetes Service Scheme (NDSS), a diabetes registry established by the Australian Government, which captures 80%-90% of Australians with diagnosed diabetes. The researchers included all individuals from NDSS with either type 1 or type 2 diabetes between 1997 and 2008. The researchers then linked the diabetes data with data from the Australian Cancer Database (ACD) and the National Death Index (NDI), using name, sex, and birth date.

The researchers found that type 1 diabetes was associated with significantly elevated incidence of pancreatic, liver, esophageal, colorectal, stomach, brain, thyroid, lung, ovarian, and endometrial cancers.9 These increased risks were similar among males and females, although fewer were significant among males. Females with type 1 diabetes displayed a decreased risk for melanoma and males for prostate cancer.9

For type 2 diabetes, the increased risk was observed for all cancers—excluding brain, testicular, esophageal (females), and anal (females).8 Interestingly, increased incidence of breast cancer was found among individuals with type 2 diabetes, but not type 1 diabetes.9

Of note, cancer risk was greatest in the first 3 months upon registration in the National Diabetes Registry. This suggests the presence of detection bias, where cancer is more likely to be detected since patients are visiting a doctor for diabetes care. It could also be a result of reverse causation where the cancer may have developed first, but diabetes was detected first. The researchers note that these biases may only partially explain the relationship found here, and that cancer screening in patients with diabetes is important.9

You can access the full study [here.](#)
References


