

# Public Health Response to Diabetes in Delaware through Partnership, Referral, and the Diabetes Self-Management Program

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## Abstract

Diabetes is a major health concern in Delaware, affecting approximately 85,000 adult Delawareans. Diabetes can lead to amputation, blindness, kidney failure, impaired hearing, heart and dental disease, and other complications. The Division of Public Health (DPH) launched a project in collaboration with Quality Insights (QI) to assist physician practices improve their National Quality Forum (NQF) Clinical Quality Measure NQF 0059. QI provides resources and tools to support physicians and their care teams in this quality improvement effort. One initiative invites physician office sites to participate in a free service that mails referral letters to their patient population with diabetes. The referral letter encourages patients to enroll in the state's free Diabetes Self-Management Program (DSMP) which supports lifestyle modification control efforts.

## Background

Type 2, or non-insulin dependent or “adult onset” diabetes, is the most prevalent type of diabetes.<sup>1</sup> Those with type 2 diabetes produce some insulin. Certain risk factors that increase your chance at developing type 2 diabetes, include being overweight, lack of physical activity, family history, race, age, having gestational diabetes, and high blood pressure.<sup>2</sup> Often people with type 2 diabetes can control their disease through lifestyle modification and oral medications, but sometimes they may have to take insulin as well.<sup>3</sup>

Unlike type 2 diabetes, type 1 diabetes is an autoimmune disease,<sup>4</sup> because the immune system attacks the insulin-producing cells in the pancreas.<sup>5</sup> However, the exact mechanisms for the onset are unknown. Type 1 diabetes requires insulin injections to manage blood glucose levels. Healthy lifestyle practices, such as eating healthy and staying active, also can help manage type 1 diabetes.<sup>1</sup>

With prediabetes, blood glucose is higher than normal but not enough to be diagnosed with type 2 diabetes. Lifestyle modifications can delay or even prevent the development of type 2 diabetes.<sup>6</sup>

## Discussion

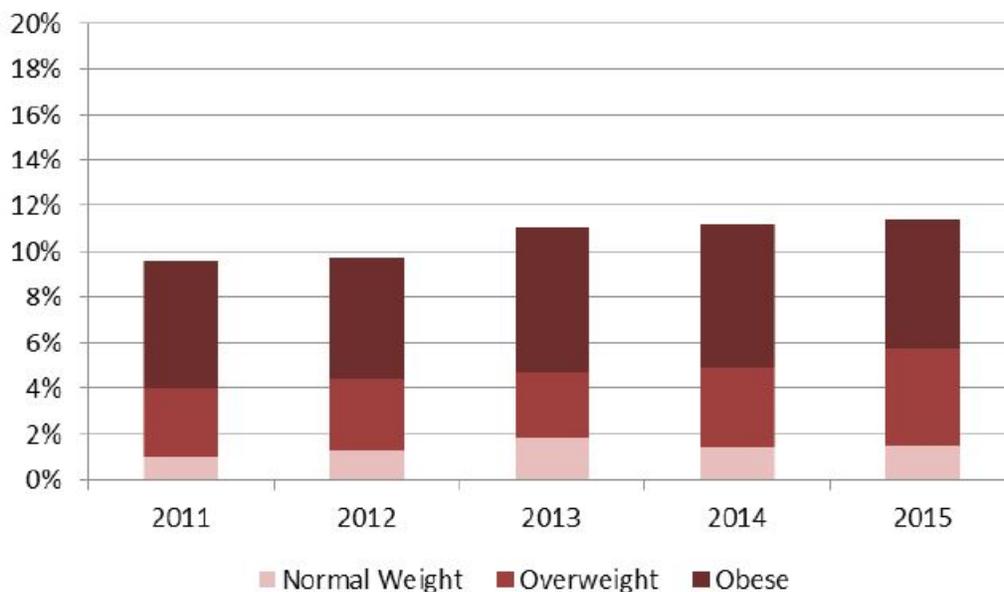
According to the 2015 Delaware Behavioral Risk Factor Survey (BRFS),<sup>7</sup> of those age 18 or older, approximately 85,000 people in the state have diabetes and almost 35,000 of those are 65 years of age or older. When controlling for age group, race, income level, county of residence, health care coverage, physical activity, weight category, disability, and depression:

- Adults age 45-54 were 9.5 times more likely to have diabetes, compared to adults age 18-44.
- Adults age 55-64 were 13.4 times more likely to have diabetes, compared to adults age 18-44.

- Adults age 65 and older were 16.2 times more likely to have diabetes, compared to adults age 18-44.
- African Americans were almost twice as likely to have diabetes, compared to Caucasian.
- Overweight or obese adults were 2.8 times more likely to have diabetes, compared to normal weight adults.
- Disabled adults were 1.5 times more likely to have diabetes, compared to non-disabled adults.

Like age, being overweight or obese are major contributing factors for developing diabetes. In Delaware, 18.9% of adults who report being obese have been diagnosed with diabetes, compared with 4.4% of adults who report normal weights. About 87.1% of adults with diagnosed diabetes are either overweight or obese. Obesity among Delaware adults more than doubled during the previous two decades; and, the prevalence of diagnosed diabetes also doubled during the same general time period. Figure 1 illustrates that the prevalence of diabetes increases as weight increases.

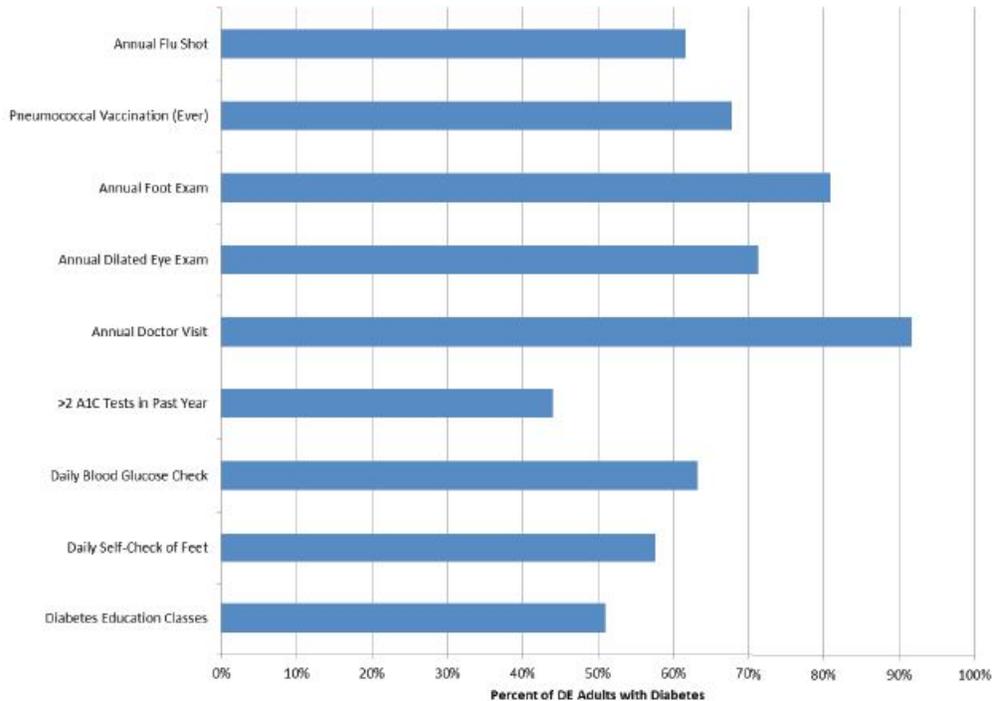
Figure 1. Delaware adult diabetes prevalence by weight category, 2011-2015.



In Delaware, four chronic diseases, — cardiovascular disease, cancer, chronic lower respiratory diseases, and diabetes, — account for over half of all deaths among Delaware residents.<sup>8</sup> Uncontrolled diabetes can lead to amputation, blindness, kidney failure, impaired hearing, heart and dental disease, and other complications.<sup>9</sup> Many preventive measures can reduce the risk of developing complications and help control diabetes. These preventive measures include having an annual flu shot, getting a Pneumococcal vaccination as determined by the Centers for Disease Control and Prevention, having annual foot and eye exams, going to the doctor at least once a year, doing an A1c test (quarterly blood sugar reading) at least annually; and for persons with diabetes to test their blood daily, to check their feet daily for sores or other problems; and to take

diabetes self-management classes. Figure 2 shows the percent of Delaware adults with diabetes who follow recommended preventive measures.

Figure 2. Percent of adult Delawareans with diabetes following preventive measures, 2015.



## Evaluation of Delaware's Diabetes Data – National Quality Strategy (NQS)

The Division of Public Health (DPH) launched a project in collaboration with Quality Insights (QI) to assist physician offices/medical practices improve their National Quality Forum (NQF) Clinical Quality Measure NQF 0059. This reportable national standard quality measure is available in all Electronic Health Records (EHR) and included in most payer quality payment programs. QI, the state's Medicare Quality Innovation Network, developed a methodology for collecting, identifying, and tracking health systems and physician practices that utilize and report the NQF 0059 measure. As a component of the National Quality Strategy (NQS) through the NQF, these measurements are part of a nationwide effort to provide direction for improving the quality of health and health care in the United States. The NQS is guided by three aims: better care, healthy people and communities, and affordable care.

### NQF Number: 0059

Comprehensive diabetes care: percentage of members 18 to 75 years of age with diabetes (type 1 and type 2) whose most recent hemoglobin A1C (HbA1c) level is greater than 9.0% (poorly controlled). The report calculates the number of patients diagnosed with diabetes that also have an A1c greater than 9.0 or have not had the A1c test performed within the measurement period (Diabetes: Not Controlled). The lower the NQF 59 percentage, the better diabetes is managed in a practice.

QI provides resources and tools to support physicians and their care teams in this quality improvement effort. For example, Quality Insights provides each physician practice access to electronic educational modules, weekly news bulletins, and free hands-on technical assistance with EHR customization and workflow modifications. Each educational module includes access to tools and resources, such as patient reminders, apps, podcasts, patient videos, and staff training videos. These educational modules include medication adherence, using care teams (including pharmacists and community health workers),

### **EHR optimization, and patient self-management and monitoring.**

Each year, up to four physician office sites participate in a free service that mails referral letters to the physician's patient population with diabetes. The referral letter encourages patients to enroll in the state's free Diabetes Self-Management Program (DSMP). By using the EHR reporting functionality, Quality Insights identifies patients living with diabetes, and creates a mailing list. Local community health workers (CHWs) contracted by QI telephone the patients approximately seven days after receiving the DSMP referral letter.

The CHWs encourage patients to enroll in the program, answers any program questions, determines their level of interest in the program, and address any attendance barriers. For more information, contact Ashley Biscardi at [Abiscard@qualityinsights.org](mailto:Abiscard@qualityinsights.org).

### **Conclusion and Future Study**

DPH's Diabetes Self-Management Program, operated by the Diabetes and Heart Disease Prevention and Control Program (DHDPCP) teaches the skill sets needed in the day-to-day management of a person with diabetes or their caregiver. Developed by Stanford University, the program supports lifestyle modification control efforts: becoming active self-managers, learning about healthy eating, being physically active, adhering to medications, monitoring daily blood sugar, and other behavior changes. The statewide program is implemented through structured sessions over a six-week period, with each session lasting 2.5 hours. People with type 2 diabetes attend the program in groups of 12 to 16. Workshops are facilitated from a highly detailed manual by two Lay Trainers, one or both of whom are peer leaders with diabetes themselves. Certification is provided to those attending at least four of the six workshops. The classes are free and one can register to be a participant and/or be a host site by calling the Diabetes and Heart Disease Prevention and Control Program at 302-744-1020. A complete listing of these classes and other hospital accredited Diabetes Self-Management Education programs in the state are located at [healthydelaware.org/diabetes](http://healthydelaware.org/diabetes)

Additional DHDPC initiatives include:

- Enhancing the use of Health Information Technology, such as using Electronic Health Records and data collection, to improve health outcomes for patients, especially those at risk or with uncontrolled diabetes.
- Supporting lifestyle programs like the YMCA's Diabetes Prevention Program that helps prevent the development of type 2 diabetes in those with prediabetes or with associated risk factors.

- Promoting medication adherence through our pharmacists to manage and regulate uncontrolled diabetes, reduce health care costs, and lower the risk of developing complications – and in some cases, premature death.
- Supporting the Emergency Medical Diabetes Fund at the State Service Centers, we link people with important needed resources to help with supplies, services, and medications.
- On-going resource linkages promoting utilization of [Healthydelaware.org/diabetes](http://Healthydelaware.org/diabetes) and social media to promote education and awareness for hypertension, uncontrolled diabetes, and early detection of prediabetes.
- On-going resource linkages promoting utilization of [Healthydelaware.org/ diabetes](http://Healthydelaware.org/diabetes) and social media to promote education and awareness for uncontrolled diabetes and early detection of prediabetes.
- Identifying employees at high risk diabetes or prediabetes within worksites and educating them on the importance of disease prevention and management, medication adherence, referrals to self- management education programs, and to promote healthy lifestyles and utilize standard preventive exams and/or tests.
- Promoting healthy lifestyle initiatives such as 5-2- 1/Almost None, which promotes eating healthy, increasing physical activity, and drinking less sugary drinks; and promoting reductions in sodium intake.

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