

# Utah Diabetes Prevention Strategic Plan

May 2018 to September 2020



*We aim to scale and sustain the National Diabetes Prevention Program and increase awareness of prediabetes in Utah.*



UTAH DEPARTMENT OF  
**HEALTH**

Healthy Living Through Environment  
Policy and Improved Clinical Care (EPICC)

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## Acknowledgments

The *Utah Diabetes Prevention Strategic Plan* is a result of many individuals who devoted their time and efforts to the creation of this plan. This endeavor could not have happened without their hard work and commitment.

We would like to thank the following local health department staff for their continued hard work on scaling and sustaining the National DPP in Utah!



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Letter of Support

To whom it may concern,

On behalf of the Bureau of Health Promotion, I write to offer my support for the Utah Diabetes Prevention Strategic Plan. The purpose of the plan is to scale and expand the National Diabetes Prevention Program (National DPP) in Utah. The National Diabetes Prevention Program is an evidence-based lifestyle change program designed to prevent type 2 Diabetes. The program has demonstrated effectiveness in helping people at high risk lose a moderate amount of weight (5% to 7% of their current body weight) and increase their physical activity to 150 minutes per week. The result of these two lifestyle changes has been proven to prevent or delay the onset of type 2 Diabetes by nearly 60%.

Diabetes is a significant, costly disease that is often under-diagnosed. About five percent (5.4%) have been told by a healthcare provider that they have prediabetes, close to 115,000 individuals (BRFSS 2011-2016). However, when national estimates are applied to Utah population, the actual number with this condition is likely closer to 590,000 (MMWR 2013; Office of Public Health Assessment, Utah Department of Health 2016). Prediabetes can be costly. In 2012, the estimated direct medical costs was approximately \$244 billion (Dall et al., 2014).

The Utah Department of Health (UDOH), Bureau of Health Promotion (BHP) is committed to working with statewide partners to implement this plan. The BHP's programs will coordinate partner activities and provide support to all partners as they work to implement the plan. Support will include activities such as convening meetings; providing surveillance, epidemiology and evaluation expertise; providing networking opportunities for partners, identifying evidence-based interventions; providing technical resources; and communicating progress on actionable objectives.

Respectfully,

Janae Duncan, MPA  
Bureau Director, Health Promotion  
Utah Department of Health



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*“We think that the medicines and the advice we give should do it, and we sometimes don’t realize the strength that could be out there with others, like community organizations. I can order a lab, or an X-ray, or even a drug... it shouldn’t be that much harder to order a referral to [a CDC-recognized lifestyle change program] for my patient who’s got prediabetes.”*

*Testimonial from a physician, CDC website, [www.cdc.gov/diabetes/prevention/lifestyle-program/deliverers/testimonials.html](http://www.cdc.gov/diabetes/prevention/lifestyle-program/deliverers/testimonials.html)*

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National data from NHANES indicates that approximately one of every three adults aged 20 and older has prediabetes (MMWR 2013). Unfortunately, a large majority of people with the condition have not been diagnosed. In Utah, the Behavioral Risk Factor Surveillance System (BRFSS) examines self-reported prediabetes for adults 18+. About five percent (5.4%) of adults have been told by a healthcare provider that they have prediabetes, close to 115,000 individuals (BRFSS 2011-2016). However, when national estimates are applied to the Utah population, the actual number with this condition is likely closer to 590,000 (MMWR 2013; Office of Public Health Assessment, Utah Department of Health 2016). Prediabetes can be costly. In 2012, the estimated direct medical costs were approximately \$244 billion (Dall et al., 2014).

If identified and addressed by lifestyle changes, the progression of prediabetes to type 2 diabetes can be delayed or prevented. One goal of the Utah Diabetes Prevention Strategic Plan is to increase the awareness of prediabetes in Utah. Achieving this goal will enable individuals with prediabetes to better manage their condition and possibly prevent their disease from progressing to diabetes. This could save millions of dollars in Utah alone in future direct medical costs.

The ***Utah Department of Health (UDOH), Bureau of Health Promotion*** (BHP) is committed to working with statewide partners to implement this plan. The BHP will coordinate partner activities and provide support to all partners as they work to implement the plan. Support will include activities such as convening meetings; providing surveillance, epidemiology, and evaluation expertise; providing networking opportunities for partners; identifying evidence-based interventions; providing technical resources; and communicating progress on actionable objectives.

This plan is a living document and, as such, will be evaluated periodically and modified as needed. It will provide direction for diabetes prevention efforts in Utah. Implementation of the changes identified in this plan will lead to healthier individuals and a healthier state.



### Strategic Plan Areas:

*Screening/Testing/Referral  
to CDC-Recognized  
Lifestyle Change Programs*

*Coverage of CDC-  
Recognized Lifestyle  
Change Programs by  
Employers and Insurers/  
Payers*

*Availability and Support of  
CDC-Recognized Lifestyle  
Change Programs*

## Introduction



“The good news is we know what works: The National Diabetes Prevention Program can help prevent or delay type 2 diabetes in those at high risk.”

Ann Albright, PhD, RDN  
Director of CDC's Division of  
Diabetes Translation

In July 2013, the Utah Department of Health (UDOH), *Healthy Living Through Environment, Policy and Improved Clinical Care (EPICC) Program*, was awarded the Center for Disease Control and Prevention (CDC) 1305 grant entitled, “*State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity, and Associated Risk Factors and Promote School Health*.” The purpose of CDC 1305 funding is to address health risk behaviors, environments, and systems associated with diabetes, heart disease, obesity, and school health.

In September 2014, the EPICC Program was one of 17 states to receive additional funding through the CDC 1422 grant entitled, “*Diabetes Prevention - State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke*.” The purpose of CDC 1422 funding is to support the implementation of population-wide and priority population approaches to prevent obesity, diabetes, heart disease, and stroke that mutually reinforce each other and reduce health disparities in these areas among adults.

In August 2015, the EPICC Program collaborated with the National Association of Chronic Disease Directors (NACDD) Programmatic State Technical Assistance Team (PSTAT) to host the Utah National Diabetes Prevention Program State Engagement Meeting. The two-day meeting was attended by more than 75 stakeholders that included local health departments (LHDs), healthcare and health plan providers, the state Medicaid and Medicaid Managed Care Organizations (Molina, HealthyU, SelectHealth, and Health Choice Utah/IASIS), BeWise/WISEWOMAN, HealthInsight, and Salt Lake County Active Aging and national speakers. The goal of the meeting was to increase awareness of prediabetes, to encourage collaboration, and to sustain the National Diabetes Prevention Program (National DPP) in Utah.

## Utah's Diabetes Prevention Support

In the beginning of 2015, Utah had one pending National DPP organization, and by early 2018, Utah had more than 25 organizations (Appendix A). There are a variety of partners offering



the National DPP, including pharmacies, LHDs, healthcare systems and clinics, and community based organizations. Classes are offered in English and Spanish.

On June 15, 2017 the EPICC Program hosted a Diabetes Prevention Strategic Plan Lunch to provide an opportunity for networking and also celebrate successes related to scaling and sustaining the National DPP throughout Utah. Attendees were provided lunch during a variety of presentations on success stories, the Quit Line referral project, and the Medicare Diabetes Prevention Program (MDPP). Exodus Healthcare presented on their successful National DPP program provided to their patients at no cost, along with success stories from two class participants. Lastly, the EPICC Program described what's next, including Network Meetings scheduled twice a year and the launch of a partner web site at [www.livingwell.utah.gov/ndpp](http://www.livingwell.utah.gov/ndpp).

### *Local and State Network Support*

The Utah Diabetes Prevention Network is led by the EPICC Program and composed of representatives from all of the National DPP organizations and LHD staff working on prediabetes activities. There will be two large group meetings each year, hosted at the UDOH, facilitated by staff from the EPICC Program. Attendees will be provided the opportunity to network with each other, share ideas for success and receive updated information on the National DPP from the state and national levels. Information and agendas for the network meetings are available on our partner site located at [www.livingwell.utah.gov/ndpp](http://www.livingwell.utah.gov/ndpp)

### *The Utah Steering Committee for the National DPP*

The Utah Steering Committee for the National Diabetes Prevention Program will hold its kick off meeting on April 27, 2018. The Steering Committee is a coordinated, collaborative statewide effort that will focus on increasing the promotion, accessibility and sustainability of the National DPP in Utah. The Steering Committee aims to address infrastructure and sustainability needs and is comprised of members committed to paving relationships with employers, insurers, policy makers and other National DPP providers and partners.



*“Having a group of people with the same goals as me really motivated me to jump start healthy lifestyle changes.”*

*Testimonial from a program participant, CDC website, [www.cdc.gov/diabetes/prevention/real-people-stories/index.html](http://www.cdc.gov/diabetes/prevention/real-people-stories/index.html)*

## Introduction (cont.)



### *Living Well National DPP Partner Website*

In the fall of 2016, a small group of individuals participated in an EPICC Program brainstorm session to develop the new National DPP Partner Support Website (Appendix D). By the end of the meeting, ideas were collected for website resources, including: a page for latest news, a frequently asked questions section, upcoming training information, and more. The site was built and further developed throughout the winter months and in 2017 was made available to all partners.

### *HealthInsight and the New Diabetes Prevention Grant*

In September 2017 the quality improvement network, HealthInsight, received the *Scaling the National Diabetes Prevention Program in Underserved Areas* (RFA-DP17-1705). The intent of this five-year cooperative agreement is to further build out the National DPP infrastructure in currently underserved areas to ensure that all adults with prediabetes or at high risk for type 2 diabetes have the opportunity to enroll in a CDC-recognized, evidence-based lifestyle change program.

The EPICC program and LHD staff have committed to partner with HealthInsight closely to expand the National DPP in five rural areas in Utah, including: Box Elder, Carbon, San Juan, Sevier and Uintah counties.

“Research studies and evaluations have repeatedly shown that interventions such as the National DPP lifestyle change program improve health outcomes and are cost-effective or cost-saving.”

Source: [www.nationaldppcoveragetoolkit.org/about-national-dpp/evidence/](http://www.nationaldppcoveragetoolkit.org/about-national-dpp/evidence/)

## National Landscape and Support

### *Coverage of Medicare Diabetes Prevention Program*

In early 2016 the Centers for Medicare & Medicaid Services (CMS) announced a proposed rule to allow coverage of the MDPP for all Part B beneficiaries, beginning in 2018. The MDPP expanded model was announced when it was determined that the National DPP model test through the Center for Medicare and Medicaid Innovation's (CMMI) Health Care Innovation Awards met the statutory criteria for expansion.

The MDPP is a structured intervention with the goal of preventing progression to type 2 diabetes in Medicare covered individuals with an indication of prediabetes. The primary goal of the expanded model is at least five percent average weight loss by participants.

Source: <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2017-Fact-Sheet-items/2017-07-13-3.html>



### *The 6|18 Initiative and Diabetes Prevention*

The 6|18 Initiative is a CDC initiative created to address 6 high burden, high cost health conditions (Diabetes, Tobacco, Hypertension, Healthcare Associated Infections, Asthma and Unintended Pregnancy) with 18 evidence based interventions intended to reduce the health and fiscal impact of these health conditions. 6|18 aims to link public health, health care providers, purchasers and payers to address the conditions in a systematic and synergic manner.

In response to the 6|18 Initiative launch in 2016, The Utah Department of Health convened the programs involved in the 6 health conditions, department leadership and Medicaid and formed the Utah 6|18 Workgroup. The Utah 6|18 Workgroup applied for and was awarded a Technical Assistance (TA) grant from the Centers for Health Care Strategies. This TA provides information and support for collaborative work between health programs and Medicaid. Asthma and prediabetes were chosen as the focus for the TA grant. Action Plans for each area as well as an overarching action plan were developed and are currently being implemented.

Source: [www.cdc.gov/sixeighteen](http://www.cdc.gov/sixeighteen)

### *Quit Line and Optum Referral Project*

The UDOH, Tobacco Prevention and Control Program, in collaboration with the EPICC Program, are coordinating a referral project with the National Tobacco Quit Line and Optum. The Quit Line intake staff will screen adults for prediabetes and refer them into a National DPP class if the caller is interested in attending, or place callers on a wait list if a class is not available at that time.

*“The National DPP lifestyle change program can also improve general health, physical function, reduce bodily pain, and improve vitality scores on a health survey after three years.”*

Source: [www.nationaldppcoveragetoolkit.org/about-national-dpp/evidence/](http://www.nationaldppcoveragetoolkit.org/about-national-dpp/evidence/)

## Introduction (cont.)



*“The numbers don’t lie—1 in 3 American adults has prediabetes. With a little exercise and a change in diet, it often can be reversed.”*

Source: [www.doihaveprediabetes.org](http://www.doihaveprediabetes.org)

Alternately, lifestyle coaches or program coordinators will screen National DPP class participants for tobacco cessation interest, and refer back to the Quit Line. This project and a similar referral project in Maryland will inform a best-practices toolkit created by Optum to be shared with other states interested in replicating a sustainable referral process.

### *NACDD and Leavitt Partners*

During the summer of 2017 the NACDD received funding from CDC’s Division of Diabetes Translation to offer enhanced technical assistance to increase employer and payer coverage and referrals to CDC-recognized National Diabetes Prevention Programs (National DPP). NACDD identified five states, including Utah. Utah was selected because the EPICC Program partnered with NACDD to host the State Engagement Meeting (StEM) in 2015 to develop a diabetes prevention strategic plan. NACDD contracted with Leavitt Partners, a health intelligence firm, to assist EPICC staff with identifying new relationships and enhancing existing relationships with payers, providers and employers around the National DPP.

### *National PSA Campaign*

The first national public service advertising (PSA) campaign about prediabetes launched in January 2016 as a partnership among the CDC, the American Diabetes Association (ADA), the American Medical Association (AMA), and the Ad Council.

The campaign encourages individuals to take a short survey (Appendix E) at [www.DoIHavePrediabetes.org](http://www.DoIHavePrediabetes.org) to assess their risk for prediabetes, to confirm their results with a doctor, and to participate in a CDC-recognized lifestyle change program. This website provides lifestyle tips and links to the CDC and National DPP classes offered in Utah and other states.



### *Prevent Diabetes STAT Toolkit*

The AMA and the CDC are partnering on the Prevent Diabetes STAT (Screen, Test, Act Today) program, which targets information to three audiences – patients, health care professionals, and employers/insurers (Appendix F). The program encourages providers to 1) screen patients for prediabetes using the CDC’s Prediabetes Screening Test or the ADA’s Diabetes Risk Test, 2) test patients for prediabetes using a blood test, and 3) refer patients with prediabetes into a DPP. Source: [www.preventdiabetesstat.org](http://www.preventdiabetesstat.org)



### *The U.S. Preventive Services Task Force*

The U.S. Preventive Services Task Force (USPSTF) and the Community Preventive Services Task Force are expert panels that make evidence-based recommendations about prevention interventions using data from scientific reviews. In 2014, USPSTF recommended that lifestyle management programs such as the National DPP be considered an Essential Health Benefit (EHB). However, within the “Preventive and Wellness Services” category, there is no requirement that health plans cover National DPP specifically, and most do not.

Source: The Guide to Community Preventive Services. (2016). What is the task force? [About us.]

[www.thecommunityguide.org/about/aboutTF.html](http://www.thecommunityguide.org/about/aboutTF.html)

Downer, S., Condra, A., White, K. L., Shaw, S. Myeni, A., Leonce, M., & Gurley, K. (2015). 2015 US federal report PATHS: beating type 2 diabetes: recommendations for federal policy reform. Retrieved from the Center for Health Law and Policy Innovation of Harvard Law School: [www.diabetespolicy.org/wp-content/uploads/2014/06/PATHS-Beating-Type-2-Diabetes-Recommendations-for-Federal-Policy-Reform-Report\\_FINAL.pdf](http://www.diabetespolicy.org/wp-content/uploads/2014/06/PATHS-Beating-Type-2-Diabetes-Recommendations-for-Federal-Policy-Reform-Report_FINAL.pdf)

“Let’s face it, there are millions of reasons why we don’t find the time to make healthy lifestyle choices. Kids, jobs, cat videos on the Internet — we’re busy. But whatever your reason, prediabetes is real.”

Source: [www.doihaveprediabetes.org](http://www.doihaveprediabetes.org)

## What is Prediabetes?

Prediabetes is a condition in which blood sugar level is higher than normal but not high enough for a diagnosis of diabetes. People with prediabetes are at increased risk of developing type 2 diabetes. Over time, the high blood sugar level from prediabetes damages nerves and blood vessels leading to complications such as heart disease, stroke, blindness, kidney failure, and lower-limb amputations. Without lifestyle changes that can reduce the risk, 15% to 30% of people with prediabetes will develop diabetes within five to ten years.

There are three tests that can confirm a diagnosis of prediabetes (Table 1).

**Table 1: Prediabetes/Diabetes Confirmatory Tests**

Classification	Fasting Blood Sugar Test	Hemoglobin A1C Test	Oral Glucose Tolerance Test At two-hour blood draw
<b>Normal</b>	<100mg/dL	4-5.6%	<140mg/dL
<b>Prediabetes</b>	100-125 mg/dL	5.7-6.4%	140-199 mg/dL
<b>Diabetes</b>	≥126 mg/dL	>6.5%	>199mg/dL

Source: American Diabetes Association, *Clinical Practice Recommendations*, 2014.

The ADA recommends that testing to detect prediabetes be considered in adults who are overweight or obese and have at least one additional risk factor for prediabetes. Risk factors for prediabetes include the following:

- Being over age 45
- Being overweight or obese
- Being physically inactive
- Having a parent or sibling with diabetes
- Having a family background that is African American, Alaska Native, American Indian, Asian American, Hispanic/Latino, or Pacific Islander American
- Having high blood sugar during pregnancy or giving birth to a baby weighing more than nine pounds
- Having a history of gestational diabetes
- Having high blood pressure—140/90 mmHg or above—or being treated for high blood pressure

- Having HDL cholesterol level below 35 mg/dL or a triglyceride level above 250 mg/dL
- Having polycystic ovary syndrome (PCOS)
- Having impaired fasting glucose (IFG) or impaired glucose tolerance (IGT) on an earlier testing
- Having other conditions associated with insulin resistance, such as acanthosis nigricans (dark patches in skin folds)
- Having cardiovascular disease

### National Burden of Prediabetes

In 2015, one in ten U.S. adults had diabetes (30.2 million, 12.2%), of which one in four were undiagnosed (7.2 million, 23.8%). An estimated three in ten U.S. adults had prediabetes (84.1 million adults, 33.9%). This represents a 47.5% increase in the national burden of prediabetes since 2007, when 57 million adults were estimated to have prediabetes (Zhang, et al, 2009).

There is a substantial economic burden associated with elevated blood glucose. In 2012, the estimated national costs were \$322 billion (direct and indirect costs), with \$244 billion for diagnosed diabetes, \$33 billion for undiagnosed diabetes, \$44 billion for prediabetes, and \$1.3 billion for gestational diabetes mellitus. Beyond medical expenditures (direct costs), elevated blood glucose has a social impact on increased absenteeism and reduced productivity in the workforce, and early mortality (indirect costs) (Dall et al, 2014).

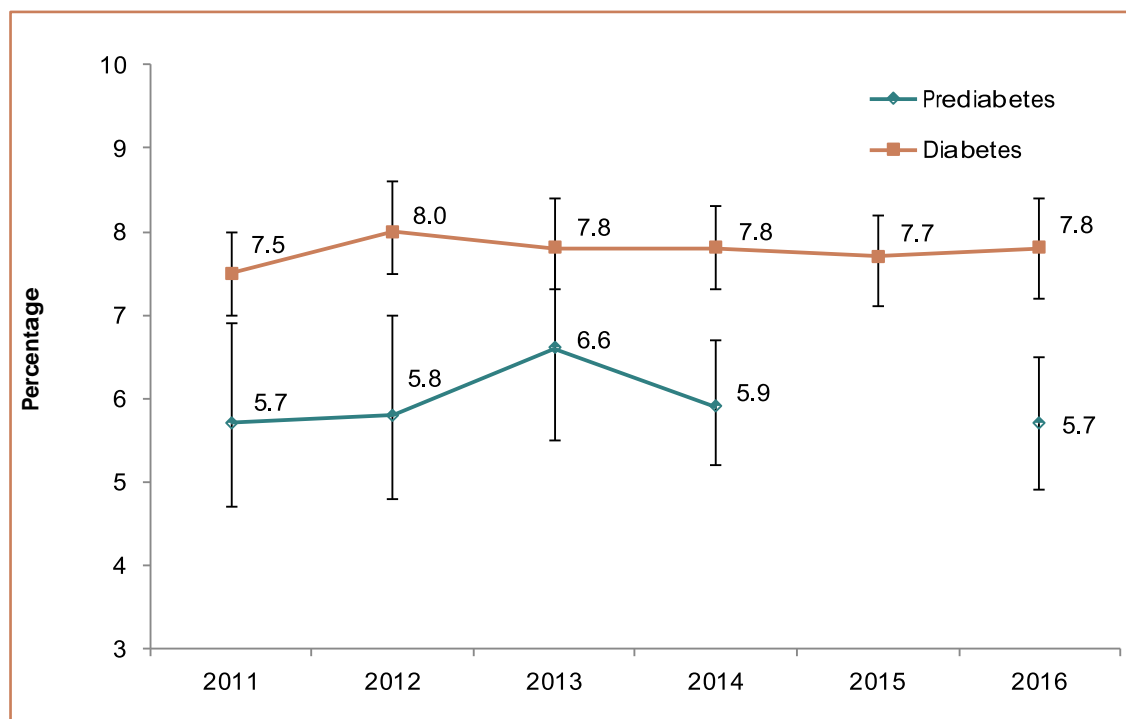
### Utah Burden of Prediabetes

In Utah, prediabetes prevalence is estimated using a combination of two data sources. The National Health and Nutrition Examination Survey (NHANES) combines interview data with physical exams to assess prediabetes prevalence in the U.S. population. Applying the NHANES estimates to the Utah population, approximately 590,000 adults would have prediabetes, of which 477,000 Utahns would be undiagnosed (MMRW 2013; Office of Public Health Assessment, Utah Department of Health 2016). Between 2011 and 2016, approximately 5.4% (115,000) of adult Utahns self-reported having prediabetes; the rate is likely to be underreported. In comparison, over the same period, approximately 7.1% (151,000) of adult Utahns self-reported having diabetes (Figure 1) (BRFSS 2011-2016).

## Burden Statement

The following figures and tables are based on the self-reported prediabetes estimates from the BRFSS.

**Figure 1: Utah Prevalence of Diabetes and Prediabetes Over Time (2011-2016)**

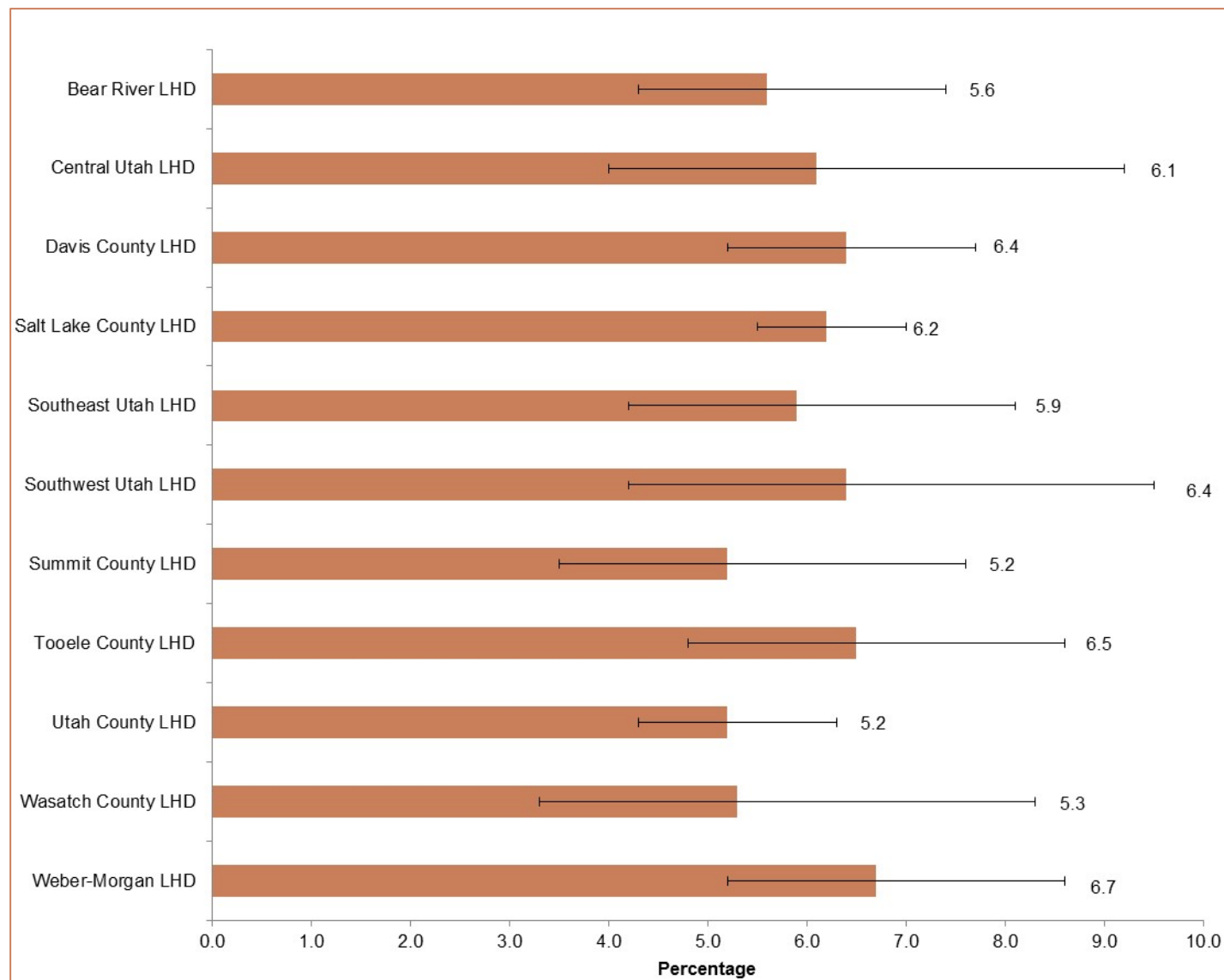


Source: Utah BRFSS Age-adjusted to the U.S. 2000 standard population. Note: No data are available for prediabetes for 2015

### Prediabetes by Local Health Department

The percentage of Utah adults who reported having prediabetes is not different across LHDs (Figure 2). The estimates ranged from 5.2% in Summit County LHD to 6.7% in Weber-Morgan LHD.



**Figure 2: Percentage of Utah Adults Who Report Having Prediabetes by LHD**

Source: Utah BRFSS age-adjusted, 2011-2016 Combined. Note: The estimates for TriCounty LHD and San Juan LHD were unreliable and not reported.

### Prediabetes and Demographic Characteristics

#### *Prediabetes by Sex*

The percentage of Utah adults who reported having prediabetes was similar for males and females. The estimates were not statistically significant when compared to the state rate (Table 1).

#### *Prediabetes by Age*

The percentage of Utah adults reporting they have prediabetes increases with age. Among adults aged 18 to 34 years of age, 2.6% reported they had prediabetes. This rate was significantly lower than the state rate total. This percentage increased to 5.1% among adults aged 35 to 49 years. Among adults aged 50 to 64, 9.1% reported they had prediabetes; and among adults aged 65 and older, 9.5% reported they had prediabetes; these rates were statistically significantly higher than the state rate (Table 1).

#### *Prediabetes by Income*

Differences in prediabetes rates by household income were not statistically significant from the state rate (Table 1).

#### *Prediabetes by Education*

The percentage of Utah adults, who reported having prediabetes by highest educational attainment, was not significantly different when compared to the state rate. Data for individuals with “Below High School” education was suppressed, due to estimate being unreliable (Table 1).

#### *Prediabetes by Race and Ethnicity*

The percentage of Utah adults who report having prediabetes by race is difficult to estimate because of unreliable estimates for races other than “white” and “other”. The prediabetes percentage for those who identify as white is 5.5%. The prediabetes percentage for other is 5.1%. Neither is significantly different from the state rate of 5.4%.

The percentage of Utah adults who reported having prediabetes was not statistically different for non-Hispanics (5.6%) and Hispanics (3.7%) when compared to the state rate (5.4%). It is important to note that Hispanics are a young population. When rates are adjusted for age, the difference is minimal (Table 1).

Table 1: Prediabetes by Demographic Characteristics

Characteristic	Estimated Number of Adults with Prediabetes	Crude Rate	Low	High	Sig	Age-Adjusted Rate	Low	High	Sig
<b>Utah</b>	114,990	5.4	5.0	5.9		5.9	5.5	6.4	
<b>Sex</b>									
Male	106,472	5.0	4.5	5.7		5.8	5.2	6.5	
Female	123,508	5.8	5.2	6.5		6.1	5.5	6.8	
<b>Age</b>									
18-34 years	55,366	2.6	2.0	3.3	▼	-	-	-	
35-49 years	108,602	5.1	4.3	6.0		-	-	-	
50-64 years	193,779	9.1	8.1	10.2	▲	-	-	-	
65+ years	202,297	9.5	8.5	10.6	▲	-	-	-	
<b>Income</b>									
0-\$24,999	127,767	6.0	5.0	7.2		7.4	6.2	8.9	
\$25,000-\$49,999	134,155	6.3	5.4	7.4		7.1	6.1	8.3	
\$50,000-\$74,999	110,731	5.2	4.3	6.2		5.7	4.8	6.7	
\$75,000+	108,602	5.1	4.4	5.8		5.3	4.6	6.1	
<b>Education (Age 25+)</b>									
Below High School	-	**	**	**		7.4	5.3	10.2	
High School or GED	129,896	6.1	5.3	7.1		6.5	5.7	7.5	
Some Post High School	140,543	6.6	5.8	7.4		7.0	6.2	7.8	
College Graduate	119,249	5.6	4.9	6.3		5.8	5.2	6.5	
<b>Ethnicity</b>									
Hispanic	78,789	3.7	2.7	5.2		5.3	3.8	7.4	
Non-Hispanic	119,249	5.6	5.2	6.1		6.1	5.6	6.6	

Source: Utah BRFSS 2011-2016 Combined. No data are available for 2015. Sig=Significance indicates statistically significantly higher or lower than the state rate. Arrows indicate if the particular estimate is significantly higher or lower than the state rate.

\*\*Data is suppressed, estimates are unreliable. Estimated number with prediabetes is calculated from 2016 population estimates.

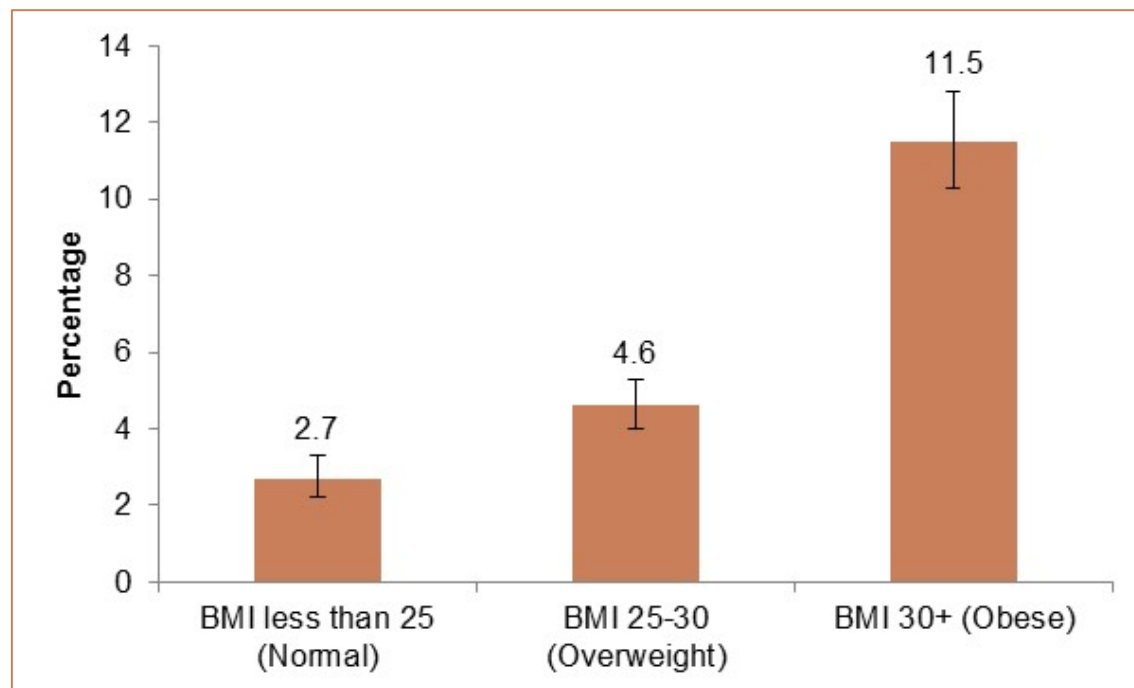
### *Prediabetes and Co-morbid Conditions*

In addition to obesity, the following health conditions have been linked to prediabetes: cardiovascular disease, polycystic ovarian syndrome (PCOS), nonalcoholic fatty liver disease, and chronic kidney disease.

### *Prediabetes by Body Mass Index*

The percentage of reported prediabetes in Utah adults increases with body mass index. The rates of prediabetes for adults at a normal body mass index are 2.7% and 4.6% for adults who are categorized as overweight. The prevalence of prediabetes is significantly higher among adults who are obese (11.5%) compared to those who are of normal weight or moderately overweight (Figure 3).

**Figure 3: Percentage of Utah Adults Who Report Having Prediabetes by Body Mass Index**



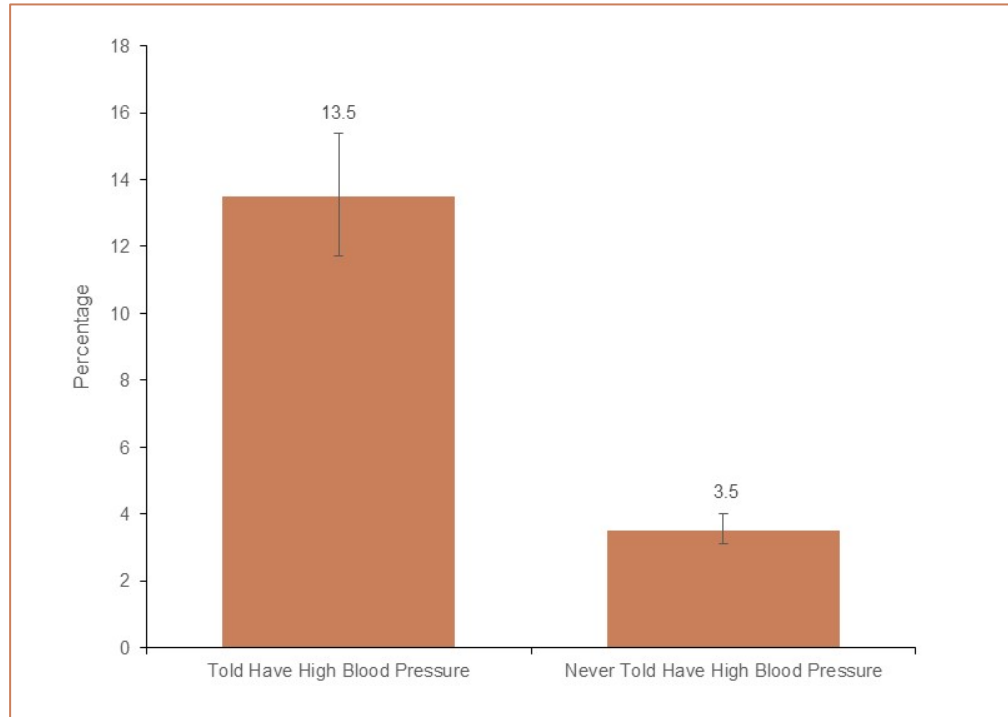
Source: Utah BRFSS 2011-2016 Combined. Crude rates.

### *Prediabetes by Blood Pressure*

High blood pressure is another risk factor for prediabetes. The prevalence of prediabetes is almost three times higher among Utah adults with high blood pressure than it is for adults who have never been told they have high blood pressure (Figure 4).



**Figure 4: Percentage of Utah Adults With and Without High Blood Pressure Who Report Having Prediabetes**



*Source: Utah BRFSS 2011-2016 Combined.*

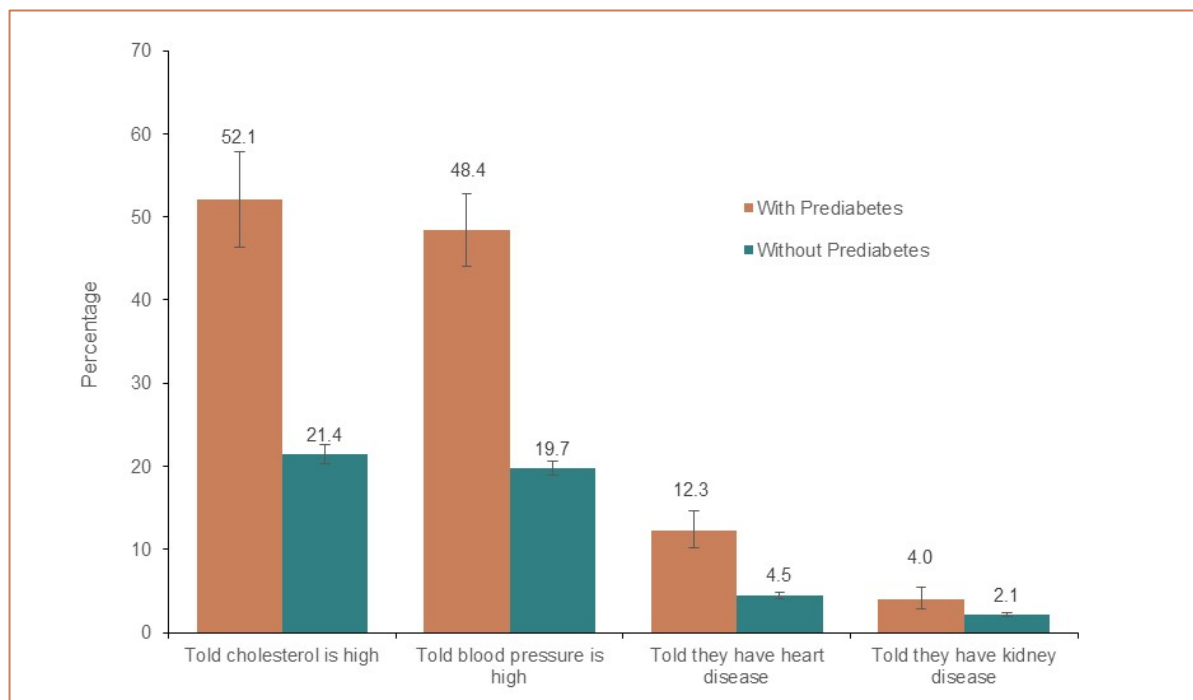
## High Blood Pressure, High Cholesterol, Heart Disease, or Kidney Disease among Adults with Prediabetes

Adults with prediabetes have much greater prevalence of other health conditions than adults who do not. Among all Utah adults reporting they have prediabetes, 52.1% reported they had high cholesterol, compared to 21.4% of adults without prediabetes (See Figure 5).

Forty-eight percent (48.4%) of adults with prediabetes reported they had high blood pressure, while only 19.7% of adults without prediabetes reported they did. About 12% (12.3%) of adults with prediabetes reported they had some form of heart disease (stroke, angina, coronary heart disease, or heart attack), compared to 4.5% of adults without prediabetes.

Four percent (4.0%) of adults with prediabetes reported they had kidney disease, compared to about two percent (2.1%) of adults without prediabetes.

**Figure 5: Percentage of Utah Adults with and without Prediabetes Who Report Having High Cholesterol, High Blood Pressure, Heart Disease, or Kidney Disease**



Source: Utah BRFSS, 2011-2016 Combined. Crude rates. Note: Prediabetes data is not available for 2015. Cholesterol data does not include 2014 and 2016. Blood pressure does not include 2016.

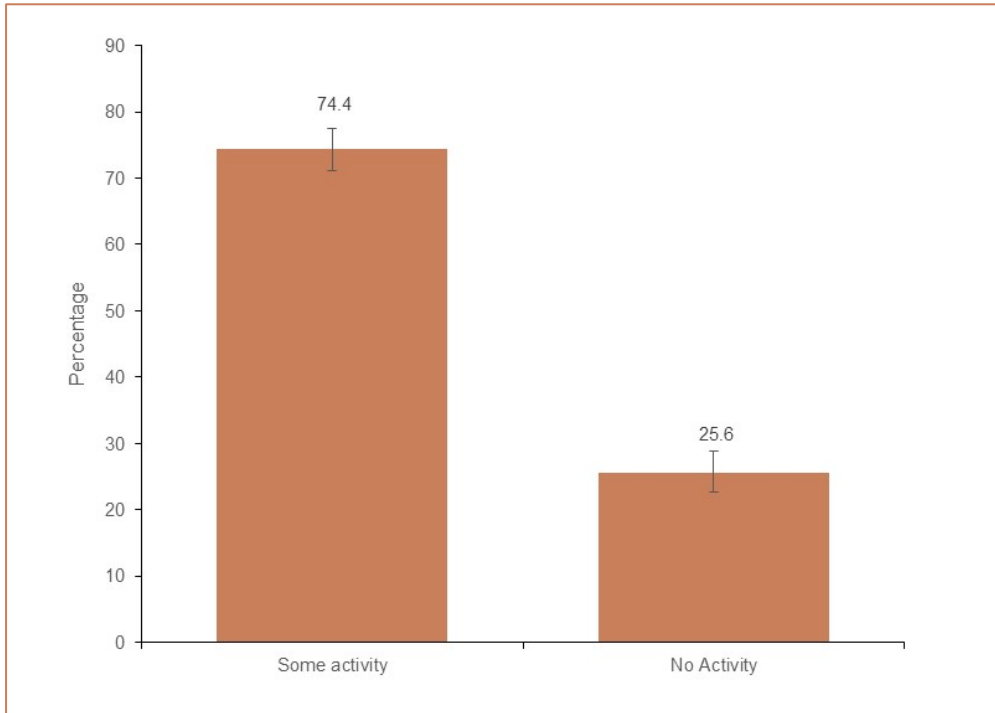
### Modifiable Risk Factors Among Adults with Prediabetes

For adults with prediabetes, research shows that doing just two things can help prevent or delay type 2 diabetes: losing 5% to 7% of their body weight, which would be 10 to 14 pounds for a 200-pound person, and getting at least 150 minutes of physical activity each week, such as brisk walking (Diabetes Prevention Research Group, 2002).

### Leisure Time Physical Activity Level Among Adults with Prediabetes

The percentage of Utah adults with prediabetes who report no leisure time physical activity is 25.6% (Figure 6). This percentage is higher than the state rate (17.6%).

**Figure 6: Percentage of Adults with Prediabetes Who Report Having Some or No Leisure Time Activity**



Source: Utah BRFSS, 2011-2016 Combined. Crude rates.

## Burden Summary

About 115,000 Utah adults have been diagnosed with prediabetes but the true prevalence is likely closer to 590,000. The prevalence of prediabetes increases with age. Certain co-morbid conditions, such as high blood pressure, are also associated with an increased risk. In Utah, the prevalence of prediabetes is three times higher among adults with high blood pressure compared to those without prediabetes.

Utah data also show that individuals at lower income levels have higher prevalence of prediabetes than those with higher incomes. While differences for Utah adults by the income level may not be statistically significant, there is a striking disparity between adults living in households with annual incomes less than \$50,000 and those in households with annual incomes of \$50,000 and above.

Utah data demonstrate an association between higher body mass index and physical inactivity and prevalence of prediabetes. Simple lifestyle changes, such as increasing physical activity and losing weight, can help individuals with prediabetes prevent or delay progression to diabetes.

## Vision, Mission & Goals



“[Patients] can get their hands around it and say ‘OK, if I follow this, I’m going to be in better shape.’”

Testimonial from a physician, CDC website, [www.cdc.gov/diabetes/prevention/lifestyle-program/deliverers/testimonials.html](http://www.cdc.gov/diabetes/prevention/lifestyle-program/deliverers/testimonials.html)

### EPICC Program Vision

*Healthy Utahns in Healthy Communities Supported by Healthy Systems.*

#### *Domain 1, Epidemiology and Surveillance Mission:*

Use information to assess EPICC program and partner efforts, collaboration, and synergy to ensure efficiency and effectiveness of strategies and monitor progress on objectives.

#### *Domain 2, Environmental Approaches Mission:*

Supporting communities to develop policies and environments that improve healthful eating and active living throughout the lifespan.

#### *Domain 3, Healthcare Systems Intervention Mission:*

Improving clinical care by supporting Utah health systems in using data for quality improvement and expanding the role of non-physician team members to help patients manage hypertension and diabetes.

#### *Domain 4, Community-Clinical Linkages Mission:*

Empower Utahns to improve quality of life through self-management of chronic conditions and connect them to resources.

### EPICC Program Goals

*Healthier people living in healthier communities. Improved prevention and control of diabetes, heart disease, and obesity. Promotion of health in schools.*

### Utah’s Diabetes Prevention Goal

*Scale and sustain the National Diabetes Prevention Program and increase awareness of prediabetes in Utah.*



## Strategic Plan Areas

### Screening/Testing/Referral to CDC-Recognized Lifestyle Change Programs

**GOAL:** By September 2020, increase referrals to lifestyle change programs by health care systems and providers.

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### Coverage of CDC-Recognized Lifestyle Change Programs by Employers and Insurers/Payers

**GOAL:** By September 2020, increase awareness of prediabetes among consumers, providers, payers, and/or employers to secure coverage for lifestyle change programs.

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### Availability and Support of CDC-Recognized Lifestyle Change Programs

**GOAL:** By September 2020, improve availability and support for existing and new lifestyle change providers.

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“I prevent type 2 diabetes so I can keep traveling, taking pictures and enjoying my family the rest of my life.”

*Testimonial from a program participant, CDC website, [www.cdc.gov/diabetes/prevention/real-people-stories/index.html](http://www.cdc.gov/diabetes/prevention/real-people-stories/index.html)*



## Appendix A

### Utah National Diabetes Prevention Program – Organizations

Name	Street Address	City	County
ARUP Laboratories Family Health Clinic	500 Chipeta Way	Salt Lake City	Salt Lake County
Bear River Health Department	655 East 1300 North	Logan	Cache
Birch Family Pharmacy	493 North Main St.	Tooele	Tooele
Comunidades En Accion	3755 West New Village Rd.	West Jordan	Salt Lake County
Cottonwood Medical Clinic, PLLC	6671 South Redwood Road	West Jordan	Salt Lake County
Davis County Health Department	22 South State St.	Clearfield	Davis
DMBA	150 Social Hall Ave., Ste 170	Salt Lake City	Salt Lake County
Exodus Healthcare Network	3665 South 8400 West, Ste. 110	Magna	Salt Lake County
Four Points Community Health Centers	440 North Paiute Dr.	Cedar City	Iron County
Hyde Park Fitness	3935 North 75 West	Hyde Park	Cache County
Intermountain Healthcare	36 South State Street	Salt Lake City	Salt Lake County
Maliheh Free Clinic	415 East 3900 South	Salt Lake City	Salt Lake County
Meds In Motion LLC	1250 East 3900 South	Salt Lake City	Salt Lake County
Midvale Community Building Community Inc (aka	49 West Center St.	Midvale	Salt Lake County
Mountain West Medical Center	2055 North Main	Tooele	Tooele
Olive Pharmacy	2290 South Redwood Rd.	West Valley City	Salt Lake County
Public Employees Health Program (PEHP)	560 East 200 South	Salt Lake City	Salt Lake County
Reed's Pharmacy	790 East Main	Hyrum	Cache
Salt Lake Community College	4600 South Redwood Rd.	Salt Lake City	Salt Lake County
Santaquin Pharmacy and Diabetes Center	869 S Turf Farm Rd.	Payson	Utah
Southwest Public Health Department	620 South 400 East	St George	Washington
Summit County Health Department	650 Round Valley Dr.	Park City	Summit County
Tooele County Health Department	151 North Main	Tooele	Tooele County
TriCounty Health Department	133 South 500 East	Vernal	Uintah County
University of Utah Diabetes Prevention Program	520 Wakara Way	Salt Lake City	Salt Lake County
Utah County Health Department	151 South University Ave.	Provo	Utah County
Utah Partners for Health (Mid-Valley Clinic)	7651 South Main St.	Salt Lake City	Salt Lake County
Weight Watchers of Salt Lake City, Inc.	797 East Winchester St., Ste 1	Salt Lake City	Salt Lake County
YMCA of Northern Utah	3216 Highland Dr., Suite 200	Salt Lake City	Salt Lake County

Last updated: 4/17/2018

Diabetes Prevention Recognition Site: [www.nccd.cdc.gov/DDT\\_DPRP/Registry.aspx](http://www.nccd.cdc.gov/DDT_DPRP/Registry.aspx)

## Utah National DPP Network List

First Name	Last Name	Organization
Jillian	Hendrickson	Access Development
Lisa	Oyler	Access Development
Holly	Gurgle	ARUP Laboratories
Libby	Chuey	AUCH
Sylvia	Tello	Bear River
Pam	Chapman	Bear River Health Department
Jennie	Murri	Bear River Health Department
Holly	Budge	Bear River Health Department
Karlie	Mitchell	Bear River Health Department
Estee	Hunt	Bear River Health Department
Marci	Gibson	Birch Family Pharmacy
Oretta	Manning	Birch Family Pharmacy
Olga	Rubiano	Comunidades En Accion (CEA)
Sofia	Gonzalez	Comunidades En Accion (CEA)
Austin	Lewis	Cottonwood Medical Clinic
Jenny		Cottonwood Medical Clinic
Cheri	Bantilan	Cottonwood Medical Clinic, Inc.
Kristen	Brimley	Davis County Health Department
Rosa	Alveno	Davis County Health Department
Marcie	Clark	Davis County Health Department
Joann	Spark	Deseret Mutual Benefit Administrators (DMBA)
Susan	Johnson	Deseret Mutual Benefit Administrators (DMBA)
Jazmin	Ferrer	Endocrinology of Utah Diabetic Clinic/ IASIS Healthcare
Teresa	Matheny	Endocrinology of Utah Diabetic Clinic/ IASIS Healthcare
Miriam (Dr.)	Padilla	Endocrinology of Utah Diabetic Clinic/ IASIS Healthcare
Jaime	Fitzgerald	Exodus Clinics
Becca	Rick	GBS Benefits, Inc.
Camille	Christensen	GBS Benefits, Inc.
Jasmine	Stewart	GBS Benefits, Inc.
Allie	Miraglia	HealthInsight
Sarah	Woolsey	HealthInsight
Margarite	Allen	Holy Cross Ministries/ South Main Clinic
Bradley	Chambers	Intermountain Budge Clinic
Paul	Schmidt	Intermountain Budge Clinic
Jessica	Shields	Intermountain Healthcare
Christina	Aguilar	Intermountain Healthcare
Kimberly	Brunisholz	Intermountain Healthcare
Liz	Joy	Intermountain Healthcare
Christine	Benton	Intermountain Healthcare
Lucy	Sorenson	Intermountain Healthcare
Benjamin	Hermansen	Intermountain Healthcare
Nathan	Peterson	Intermountain Healthcare Community Benefit
Terry	Foust	Intermountain Healthcare/Community Benefits
Daniel	Sharp	Intermountain Logan Clinic
Robert	Patterson	Intermountain South Logan Clinic

## Appendix B (cont.)

### Utah National DPP Network List

First Name	Last Name	Organization
Chelsie	Black	Jordan Valley Endocrinology of Utah- Diabetes Center
Amanda	Griffin	Maliheh Free Clinic
Jeanie	Ashby	Maliheh Free Clinic
Gevan	Eldredge	Maliheh Free Clinic
Tetea	Wolfinden	Maliheh Free Clinic
Jon	Carmon	Midvale CBC Community Clinic
Maria C.	Cal	Midvale CBC Community Clinic
Jared	Hansen	Moreton & Company
Madeline	Ju	Moreton & Company
Shelby	Straley	Mountain West Medical Center
Kit	Hart	Mountain West Medical Center
Crystal	Dana	Mountain West Medical Center
Kaleem	Mohammed	Olive Pharmacy
Laura	Lu Warren	Olive Pharmacy
Lynda	Blades	PEHP/ Healthy Utah
Trent	Steele	Salt Lake City Corporation
Kevin	Nguyen	Salt Lake Community College
Lauren	Toomey	Salt Lake Community College
Preston	Lindhardt	Salt Lake Community College
Marianne	Christensen	Salt Lake County Aging and Adult Services
Donna	Harlow	San Juan Health Department
Zachery	Keith	San Juan Health Department
Jim	Webster	Santaquin Diabetes Prevention Program
Jalaine	Kantor	Santaquin Diabetes Prevention Program
Alysia	Ducuara	SLCoHD Healthy Living Program Team
Anni	McKinnon	SLCoHD Healthy Living Program Team
Kathryn	Hiolski	SLCoHD Healthy Living Program Team
Miriam	Zentgraf	SLCoHD Healthy Living Program Team
Audrie	Frehner	Southwest Health Department
Jennifer	Miller	St. Mark's Hospital
Jessica	Hargroder	St. Mark's Hospital
Melanie	Steere	St. Mark's Hospital
Hillary	Bryan	Tooele County Health Department
Sherry	Butler	Tooele County Health Department
Malaena	Toohey	Tooele County Health Department
Jill	Whiting	Tooele County School District
Sheldon	Smith	University of Utah
Robin	Marcus	University of Utah Health
Kristie	Hinton	Urban Indian Center of Utah
JulieAnn	Titmus	Utah County Department of Health
Carrie	Bennett	Utah County Department of Health
Patty	Cross	Utah County Department of Health
Elvia	Calderia-Soria	Utah County Department of Health
Jenae	Duncan	Utah Department of Health
Edwin	Espinel	Utah Department of Health, EPICC



## Utah National DPP Network List

First Name	Last Name	Organization
McKell	Drury	Utah Department of Health, EPICC
Natalie	Rowe	Utah Department of Health, EPICC
Dustin	Jones	Utah Department of Health/ EPICC
Nicole	Bissonette	Utah Department of Health/EPICC
Dallin	Wilkes	Utah Partners for Health
Estefania	Mondragon	Utah Partners for Health- Mid-valley Clinic
Renae	Bowen	Utah Partners for Health- Mid-valley Clinic
Rocio	Sandoval	Utah Partners for Health- Mid-valley Clinic
Romy		Utah Partners for Health- Mid-valley Clinic
Yeny		Utah Partners for Health- Mid-valley Clinic
Jaqueline	Neid-Avila	Utah State Extension Services
Sheri	Winn	Weber-Morgan
Lacey	McFarland	Weber-Morgan
Angela	Voraotsady	YMCA Utah
Amy	Titmus	YMCA Utah
Aracely	McKeehan	YMCA Utah
Rich	West	Y-USA/YMCA Diabetes Prevention Program


## Steering Committee for Diabetes Prevention in Utah

First Name	Last Name	Organization
Karlie	Mitchell	Bear River Health Department
Kristen	Brimley	Davis County Health Department
Allie	Miraglia	Health Insight
Sarah	Woolsey	Health Insight
Jessica	Shields	Intermountain Healthcare
Kim	Bruninsholz	Intermountain Healthcare
Liz	Joy	Intermountain Healthcare
Patricia	Doxey	Leavitt Partners
Miriam	Zentgraf	Salt Lake County Health Department
SaRene	Brooks	Summit County Health Department
Shelley	Worley	Summit County Health Department
Sheldon	Smith	University of Utah
JulieAnn	Titmus	Utah County Health Department
Anna	Guymon	Utah Department of Health
Celsa	Bowman	Utah Department of Health
Gregory	Trollan	Utah Department of Health
Kathy	Paras	Utah Department of Health
McKell	Drury	Utah Department of Health
Melissa	Zito	Utah Department of Health
Nelson	Clayton	Utah Department of Health
Nichole	Shepherd	Utah Department of Health
Nicole	Bissonette	Utah Department of Health
Lacey	McFarland	Weber-Morgan Health Department

## Appendix C

### Living Well National DPP Partner Website

Living Well  
National DPP Website  
[www.livingwell.utah.gov](http://www.livingwell.utah.gov)



Living Well Utah

Find a Workshop | Explore Workshops | Health Education | **Contact Us**

Go to:  
Contact Us  
National DPP  
Partners

Register for a Program  
Search and register for healthy education programs in your area.  
Search | Learn More

Program Map  
See where programs are located near you.  
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Living Well Utah

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Network  
Resources  
Marketing  
Good & Better  
Screen & Refer  
Medicare (MDPP)  
Contact Us  
FAQs

National Diabetes Prevention Program

Welcome to the support website for new or current CDC recognized National Diabetes Prevention Program (National DPP) in Utah. Contact us to get started today or for help with your program.

[www.livingwell.utah.gov/ndpp](http://www.livingwell.utah.gov/ndpp)

## National PSA Campaign

DO YOU HAVE  
PREDIABETES?

## Prediabetes Risk Test

## 1 How old are you?

- Less than 40 years (0 points)  
40–49 years (1 point)  
50–59 years (2 points)  
60 years or older (3 points)

Write your score  
in the box.

## 2 Are you a man or a woman?

- Man (1 point) Woman (0 points)

## 3 If you are a woman, have you ever been diagnosed with gestational diabetes?

- Yes (1 point) No (0 points)

## 4 Do you have a mother, father, sister, or brother with diabetes?

- Yes (1 point) No (0 points)

## 5 Have you ever been diagnosed with high blood pressure?

- Yes (1 point) No (0 points)

## 6 Are you physically active?

- Yes (0 points) No (1 point)

7 What is your weight status?  
(see chart at right)

## If you scored 5 or higher:

You're likely to have prediabetes and are at high risk for type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal). Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanic/Latinos, American Indians, Asian Americans and Pacific Islanders.

Higher body weights increase diabetes risk for everyone. Asian Americans are at increased diabetes risk at lower body weights than the rest of the general public (about 15 pounds lower).

For more information, visit us at

[DoIHavePrediabetes.org](http://DoIHavePrediabetes.org)

Height	Weight (lbs.)		
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+
	(1 Point)	(2 Points)	(3 Points)

Adapted from Bang et al., Ann Intern Med  
151:775-783, 2009.  
Original algorithm was validated without  
gestational diabetes as part of the model.

## LOWER YOUR RISK

Here's the good news: It is possible with small steps to reverse prediabetes - and these measures can help you live a longer and healthier life.

If you are at high risk, the best thing to do is contact your doctor to see if additional testing is needed.

Visit [DoIHavePrediabetes.org](http://DoIHavePrediabetes.org) for more information on how to make small lifestyle changes to help lower your risk.



## DIABETES?

## de la diabetes

Anote el puntaje  
en el recuadro.

er (0 puntos)

papá, hermano,  
diabetes?profesional de  
arterial alta (o

idad física?

puntaje  
según la tabla a la

más:

Estatura	Peso (en libras)		
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+
	(1 Punto)	(2 Puntos)	(3 Puntos)

Adaptado de Bang et al., Ann Intern Med  
151:775-783, 2009.  
El algoritmo original fue validado sin utilizar la diabetes  
gestacional como parte del modelo.

## REDUZCA SU RIESGO

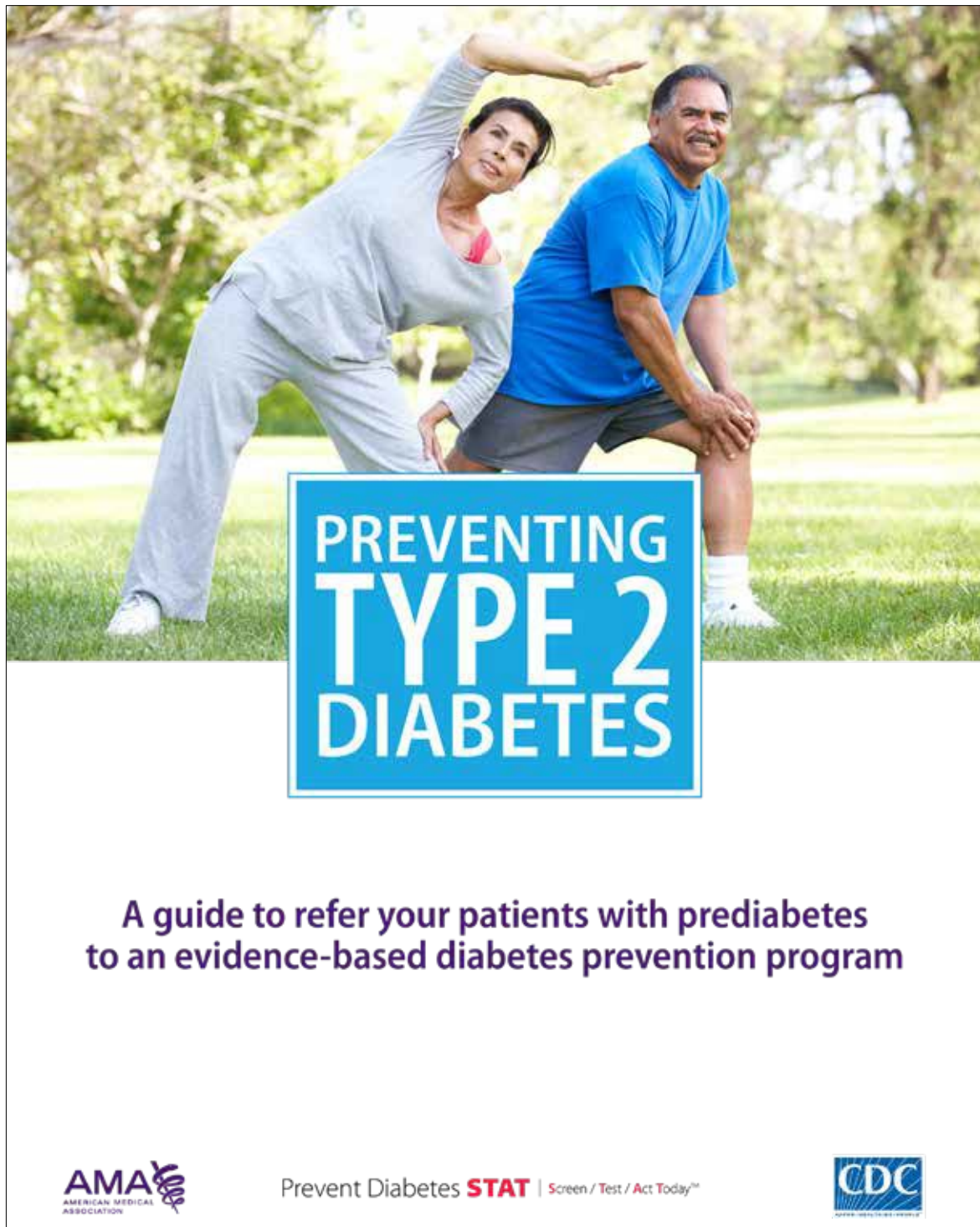
Tenemos buenas noticias: con pequeños pasos, es posible revertir la prediabetes, y estas medidas pueden ayudarlo a vivir una vida más larga y saludable.

Si tiene un riesgo alto, lo mejor que puede hacer es contactar a su médico para ver si es necesario realizar alguna prueba adicional.

Visite [PodriaTenerPrediabetes.org](http://PodriaTenerPrediabetes.org) para obtener más información sobre cómo puede comenzar a hacer pequeños cambios en su estilo de vida que ayudarán a reducir su riesgo.

[www.DoIHavePrediabetes.org](http://www.DoIHavePrediabetes.org)

## AMA/CDC Prevent Diabetes STAT Toolkit



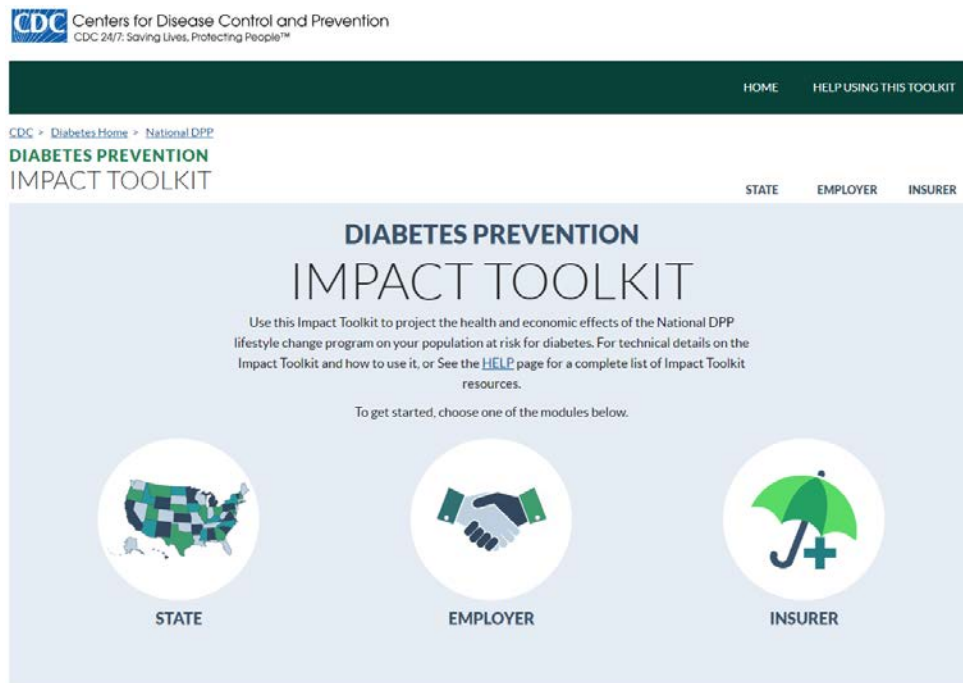
[www.preventdiabetesstat.org](http://www.preventdiabetesstat.org)



## Appendix F

### Resources

Agency	Title	Website
CDC and NDEP	Communication and Marketing Toolkit	(November 2017)
CDC	Diabetes Health and Economic Burden Toolkit	<a href="http://www.cdc.gov/diabetes/data/">www.cdc.gov/diabetes/data/</a>
CDC	Diabetes Prevention Impact Toolkit	<a href="https://nccd.cdc.gov/Toolkit/DiabetesImpact/">https://nccd.cdc.gov/Toolkit/DiabetesImpact/</a>
CDC, AMA, ADA and AdCouncil	National Diabetes Awareness Campaign	<a href="http://www.doihaveprediabetes.org">www.doihaveprediabetes.org</a>
CDC	National Diabetes Prevention Program	<a href="http://www.cdc.gov/diabetes/prevention">www.cdc.gov/diabetes/prevention</a>
CDC and NACDD	National Diabetes Prevention Program Coverage Toolkit	<a href="http://www.nationaldppcoveragetoolkit.org">www.nationaldppcoveragetoolkit.org</a>
AMA and CDC	Prevent Diabetes STAT Toolkit	<a href="http://www.preventdiabetesstat.org">www.preventdiabetesstat.org</a>



[www.nccd.cdc.gov/toolkit/diabetesimpact](http://www.nccd.cdc.gov/toolkit/diabetesimpact)



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For more information visit:  
[www.choosehealth.utah.gov](http://www.choosehealth.utah.gov)

