



Diabetes and Prediabetes in Washington State and Resources to Support Management and Prevention

Heart, Disease, Stroke, and Diabetes Prevention Program
Community Based Prevention Section

PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND
HEALTHIER COMMUNITY

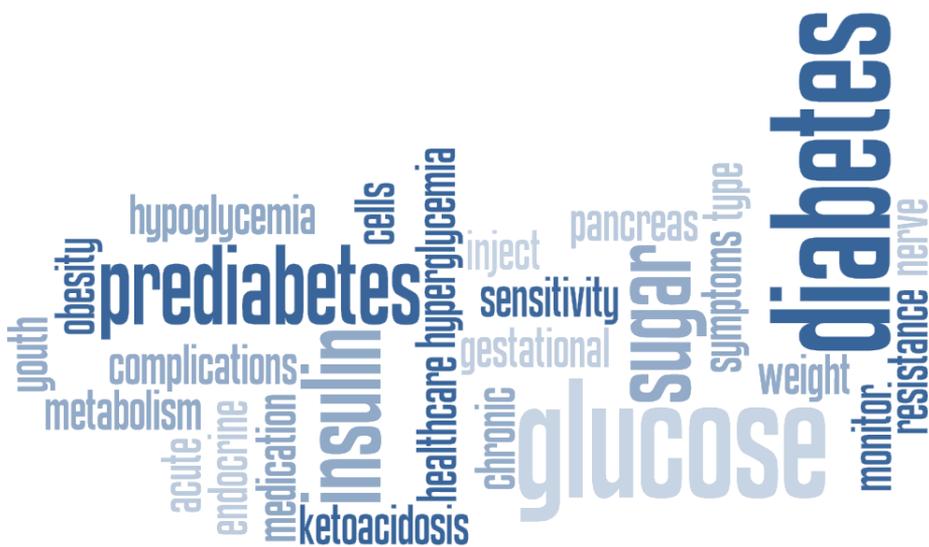


Objectives

By the end of this training, participants should...

- Understand and describe basic information about diabetes and prediabetes
- Understand and describe diabetes and prediabetes screening methods
- Learn about resources available
 - Prediabetes risk test
 - DPP and DSME
 - 7 Self Care Behaviors - AADE





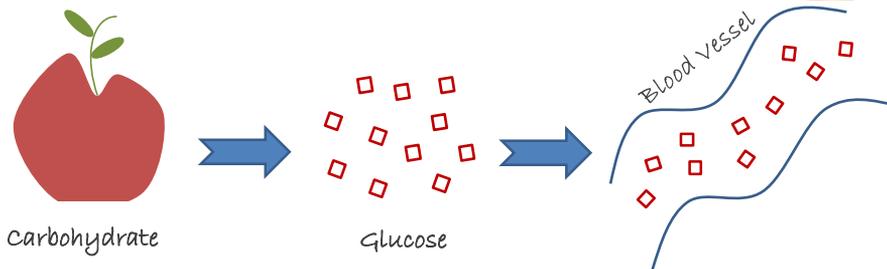
Things we may hear



- Diabetes is caused by eating too much sugar
- People with type 2 diabetes who need to use insulin are in serious trouble
- I am too young to have diabetes
- Prediabetes isn't serious
- I am too thin to have diabetes



What happens in Digestion



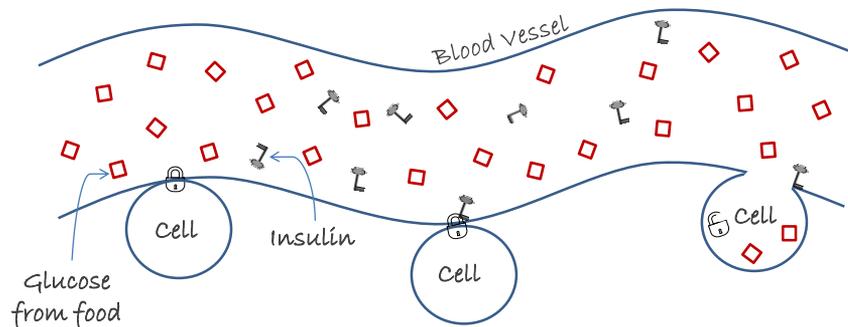
Carbohydrate gets eaten and broken down into glucose

Glucose enters the blood stream



What happens after

Normal Process:



As glucose levels increase, insulin goes up

Insulin attaches to cell

Insulin opens cell and glucose gets used as energy



What is PREDIABETES



- Glucose levels are elevated, but not high enough to diagnose Diabetes
- If not controlled, this can lead to Type 2 Diabetes
- 11 out of 12 people do not know they have Prediabetes

Prediabetes puts you at risk!



What is DIABETES



- Chronic condition where the body is unable to regulate blood *glucose* levels
- Three different types of diabetes:
 - **Type 1:** Body produces little to no *insulin*
 - **Type 2:** Body does not make enough *insulin* or does not use it properly
 - **Gestational Diabetes:** Women may develop it during pregnancy

GLUCOSE:

Sugar converted into energy by the cells

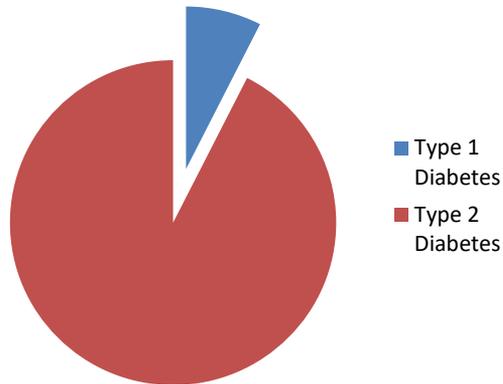
INSULIN:

Hormone that helps glucose into the cell

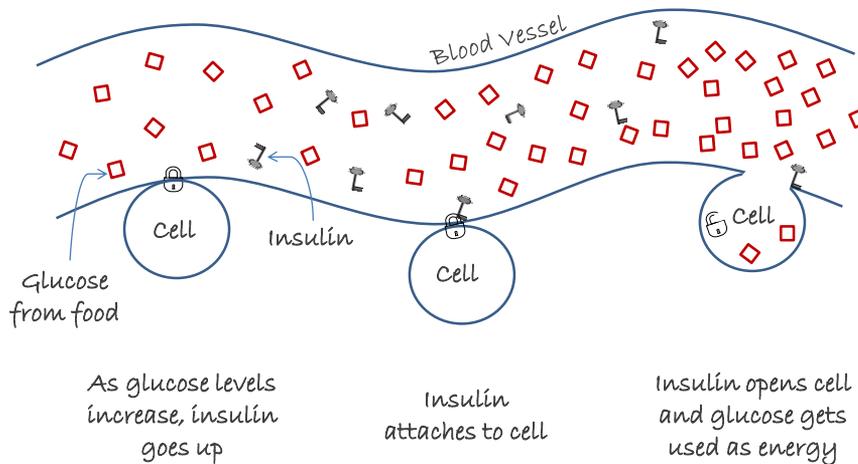


What percentage of people have which type?

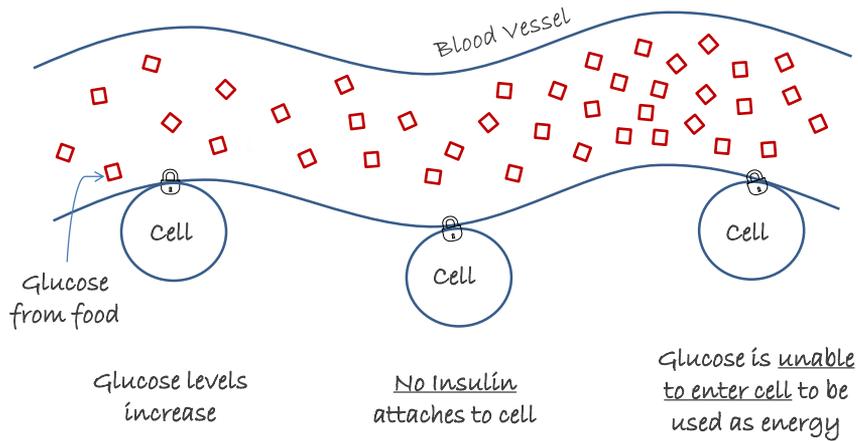
Percent of people with diabetes by type



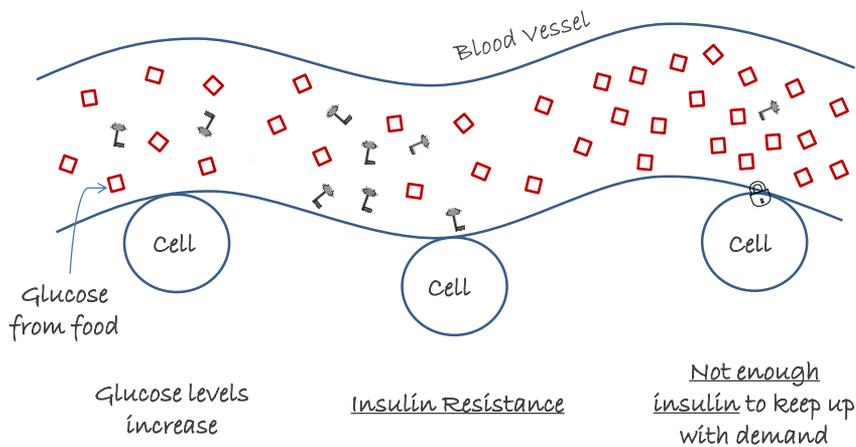
Prediabetes



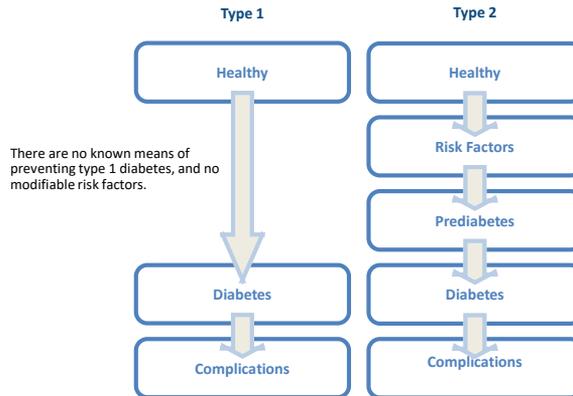
Type 1 Diabetes



Type 2 Diabetes



The Progression of Diabetes

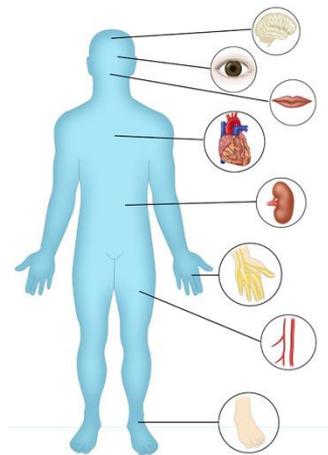


At every step, preventive treatment, including healthy eating and active living, can stop the further progression of diabetes.

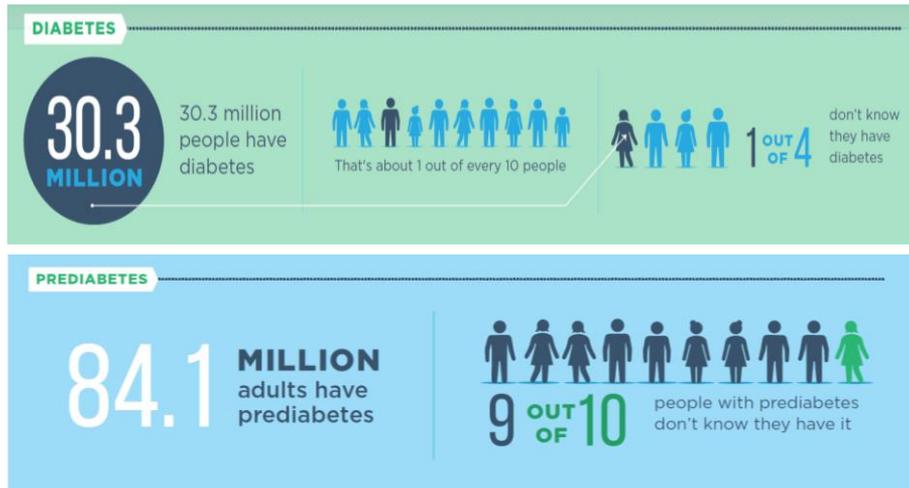


Diabetes Can Affect.....

Diabetes can affect **many different organs** in our body increasing the chance for many serious health problems



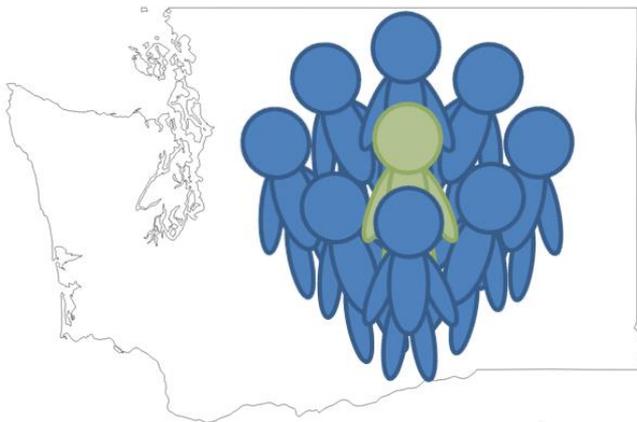
Diabetes & Prediabetes in the United States



Prediabetes in Washington



Diabetes in Washington

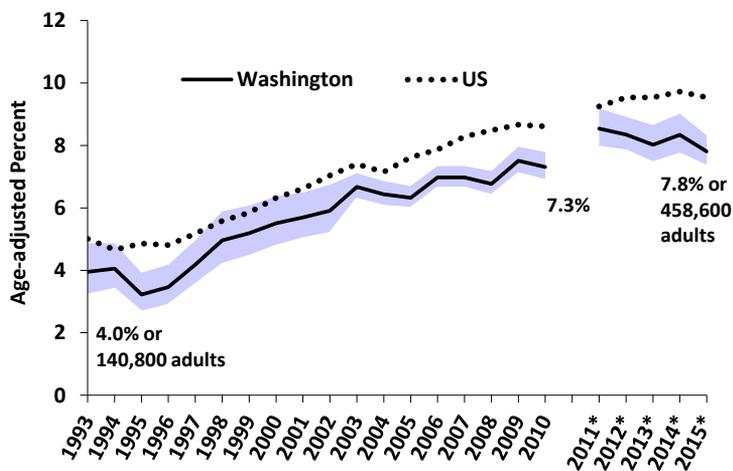


627,000

People in Washington have **diabetes**
That is about **1** out of **9** people



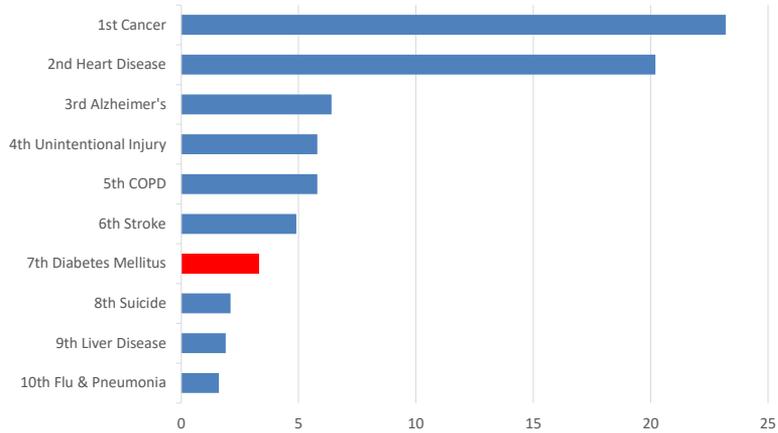
Trends In Diabetes Prevalence in WA and U.S.



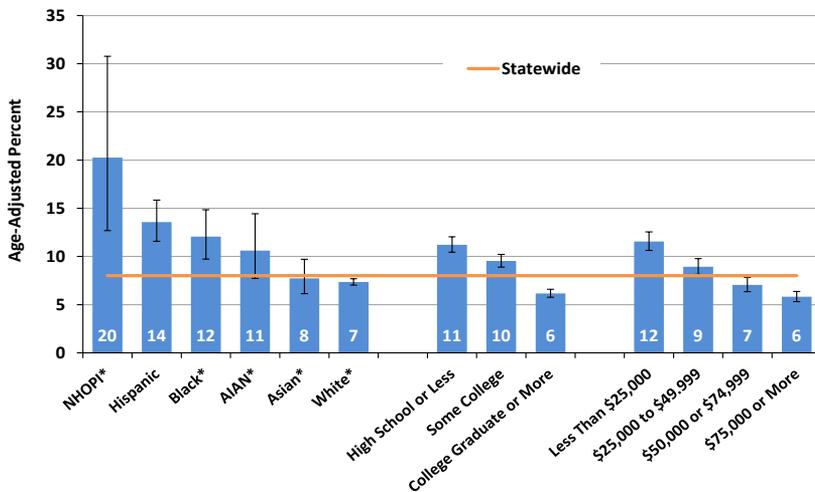
Source: Washington State and US Behavioral Risk Factor Surveillance System Surveys, 1993-2015.
*Data not comparable to earlier years due to changes in methods of collecting and analyzing data.



2015 Washington State 10 Leading Causes of Death



Differences in Diabetes Burden

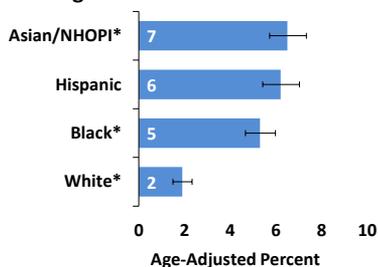


Differences in Diabetes Burden

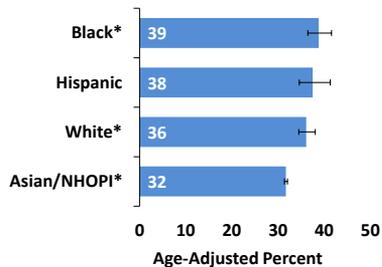
SEARCH for Diabetes In Youth – US (<https://www.searchfordiabetes.org>)

- Compared with other groups, non-Hispanic white children and adolescents had the highest rate of new cases of type 1 diabetes.
- While still uncommon, the rates of new cases of type 2 diabetes were greater among people aged 10–19 years than in younger children, with higher rates among U.S. minority populations than in non-Hispanic whites.

Undiagnosed Diabetes - US Adults



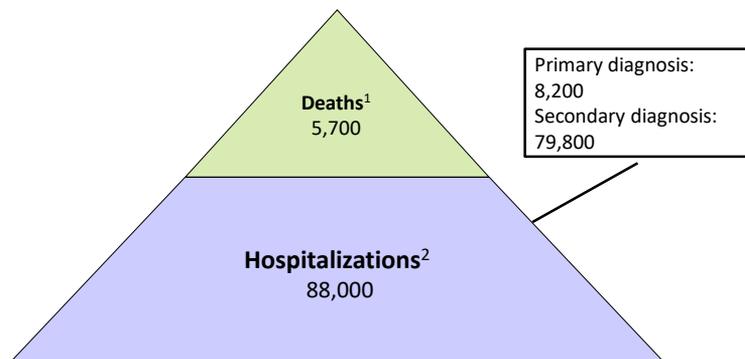
Prediabetes - US Adults



Source: 2011-2012 National Health and Nutrition Exam Survey (NHANES) from Menke A, Casagrande S, Geiss L, Cowie CC. Prevalence of and Trends in Diabetes Among Adults in the United States, 1988-2012. JAMA. 2015 Sep 8;314(10):1021-9. Abbreviations: NHOPI, Native Hawaiian/Other Pacific Islander. *Non-Hispanic, single race only.



Burden of Diabetes In Washington State



Sources: 1. Washington State Death Certificate Data, 2015. 2. Washington Hospital Discharge Data, Comprehensive Hospitalization Abstract Reporting System (CHARS) and Oregon State Hospital Discharge Data, 2014.



\$5 billion

Spent on diabetes
in Washington in one year (2012 estimate).

Washington State Department of Health



Financial Costs of Diabetes in Washington, 2012

Diabetes

- \$3.75 billion in direct medical expenditures
- \$1.36 billion in lost productivity

Prediabetes

- \$709 million in direct medical expenditures

Gestational Diabetes

- \$23 million in direct medical expenditures



Additional Costs

- All types of **elevated blood glucose** cost an estimated **\$7 billion each year** in Washington State (This includes \$5.4 billion in direct medical expenses for diagnosed and undiagnosed diabetes, gestational diabetes, and prediabetes and \$1.6 billion spent on indirect costs from lost productivity due to diabetes (in 2012 dollars).²

American Diabetes Association. Economic costs of diabetes in the U.S. in 2012. *Diabetes Care*. 2013 Apr;36(4):1033-46.
Dall TM, Yang W, Halder P, Pang B, Massoudi M, Wintfeld N, Semilla AP, Franz J, Hogan PF. The economic burden of elevated blood glucose levels in 2012: diagnosed and undiagnosed diabetes, gestational diabetes mellitus, and prediabetes. *Diabetes Care*. 2014 Dec;37(12):3172-9.



Average Annual Cost of Diabetes Per Person in Washington

Statewide	\$8,527
Age in years^a	
<45	\$4,785
45-64	\$6,094
≥65	\$12,842
Years since diabetes diagnosis^a	
≤5	\$6,380
6-15	\$9,613
≥16	\$14,412

Source: Sources: American Diabetes Association diabetes cost estimates applied to Washington population counts.

a - An average of the costs by group may not equal the statewide average due to the different sizes of each age group and adjustments made for Washington-specific costs.



Risk Factors for Type 2 Diabetes

- **Non Modifiable**

(but there are things that can be done to manage them)

- Age
- Ethnicity
- Gender
- Family History
- History of Gestational Diabetes
- Polycystic Ovary

- **Modifiable**

- Weight gain
- Tobacco use
- High blood pressure
- High cholesterol
- Sedentary lifestyle
- Overweight or obesity



Additional Risk Factors for Diabetes

- **Socially Determined**

- Lower education
- Lower socioeconomic status
- Psychosocial stressors

- **Other Conditions**

- Cardiovascular disease
- Acanthosis nigricans

- **Associated**

- Presence of damaging immune system cells
- Chronic glucocorticoid Exposure
- Antipsychotic therapy for schizophrenia and/or severe bipolar disease



Testing Methods



Blood Test Values

Test	Normal	Prediabetes	Type 2 Diabetes
Hemoglobin A1C	<5.7	5.7 – 6.4	≥6.5
Fasting Plasma Glucose Levels	70-99	100-125	≥ 126
2-h Oral Glucose Tolerance Test	<140	140 – 199	≥200

If result is positive, a second test is needed to confirm diagnosis

Hemoglobin A1C:

- Average glucose level of the last 2 to 3 months

Fasting Plasma Glucose:

- Glucose level after 8 hour fasting period

Oral Glucose Tolerance Test (OGTT):

- Two readings; One fasting and one 2 hours after glucose drink is taken



Managing DIABETES



Possible treatments include:

- ✓ Healthy Eating, Active Living
- ✓ Medication
 - ✓ Oral
 - ✓ Injectable (Insulin)
- ✓ Blood glucose testing

ANYONE

with diabetes should routinely see their health care provider to monitor their diabetes and help them learn to self manage their diabetes

Health care providers who specialize in diabetes care include:

*Primary Care Providers
Endocrinologists
Ophthalmologists
Podiatrists
Dietitians
Diabetes Educators*



Diabetes Treatment and Self-Management

- Clinical management
 - <.02% of a patient's life!
 - Tests, labs, exams
- Patient self-management
 - 98.98% of a patient's life
 - Blood glucose testing, nutrition, physical activity, taking meds, coping etc.



7 Self-Care Behaviors

American Association of Diabetes Educators

- Healthy eating
- Being active
- Monitoring
- Taking medication
- Problem solving
- Healthy coping
- Reducing risks

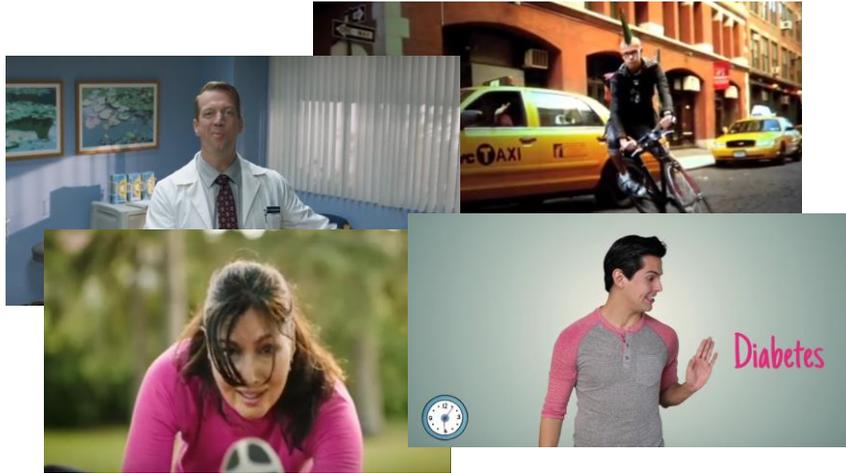


Medical Nutrition Therapy

- Individualized MNT to achieve treatment goals (refer to an RD)
- Attain and maintain outcomes, including glucose, A1C, LDL, HDL, triglycerides, blood pressure, and weight
- Prevent and treat chronic complications and comorbidities of diabetes. Improve health through healthy food choices.
- Address individual nutritional needs, personal and cultural preferences and lifestyle, respecting the individual's wishes and willingness to change.



Prevention & Management!

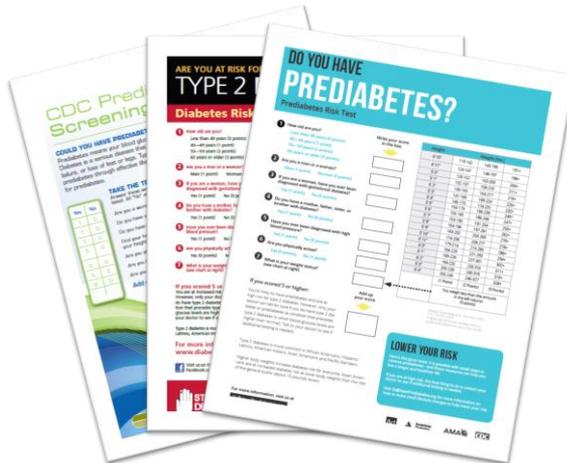


National Diabetes Prevention Program



Supporting Prevention

- Encourage prediabetes screening by sharing these questionnaires with your community



Prevent Diabetes STAT

Prevent Diabetes **STAT** AMA CDC

Prevent Diabetes STAT
Screen / Test / Act Today™

84 MILLION AMERICANS HAVE PREDIABETES **9** out of **10** PEOPLE WITH PREDIABETES DON'T KNOW THEY HAVE IT.

PATIENTS AND PARTNERS HEALTH CARE PROFESSIONALS EMPLOYERS AND INSURERS

WHAT YOU SHOULD KNOW ABOUT PREDIABETES
Prediabetes means a person's blood glucose (sugar) level is higher than normal, but not high enough yet to be diagnosed as diabetes. If you have prediabetes, you are at increased risk for developing serious health problems such as type 2 diabetes, stroke and heart disease. The sooner people find out they have prediabetes and take action, the better their chances of preventing type 2 diabetes.

WHY YOU SHOULD ACT – TODAY
The Centers for Disease Control and Prevention (CDC) and the American Medical Association (AMA) are sounding an alarm about prediabetes because a national effort – by everyone from physicians to employers to patients to community organizations—is required to prevent type 2 diabetes in the United States. In addition to focusing on the person with prediabetes or diabetes, we also must engage the systems and communities where people live, work and play. We can all Act – Today.

THE AMA AND CDC URGE YOU TO:

- SCREEN**
Take the CDC Prediabetes Screening Test.
- TEST**
Talk to your doctor about your risk for prediabetes. Your doctor
- ACT TODAY**
Find a diabetes prevention program in your community.

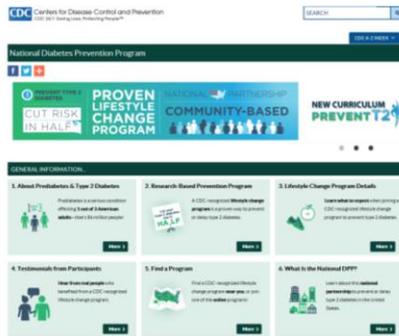


Supporting Self-Management

- Encourage participation in DPP and DSME programs

Diabetes Prevention Program (DPP)

Diabetes Self-Management Education (DSME)



Management and Education

The Washington State Diabetes Prevention and Control Program works with partners to promote quality healthcare at the community, clinical, and patient levels.

Chronic Disease Self-Management Program

People who have diabetes need skills to manage their diabetes, and to help them stay active and healthy. People with diabetes often have more than one chronic illness, like heart disease or asthma, too. The Chronic Disease Self-Management Program is a six-week workshop led by professional trainers in community settings, for people with chronic health problems.

The program builds confidence for participants through mutual support and helps people succeed in leading active and fulfilling lives. It is also offered in Spanish: "Tomando Control de su Salud". For more information, visit [Stanford University CDSMP](#) or find [CDSMP offerings near you](#).

To learn more about self-management and healthy aging programs in Washington State, visit [Living Well with Chronic Conditions in Washington State](#). For more information, [contact us](#).

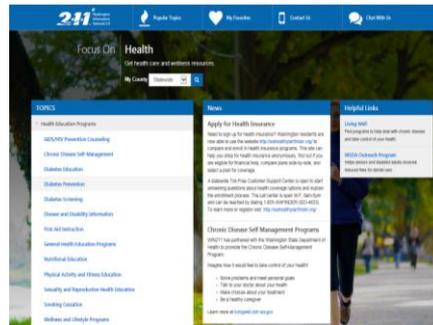


Supporting Self-Management

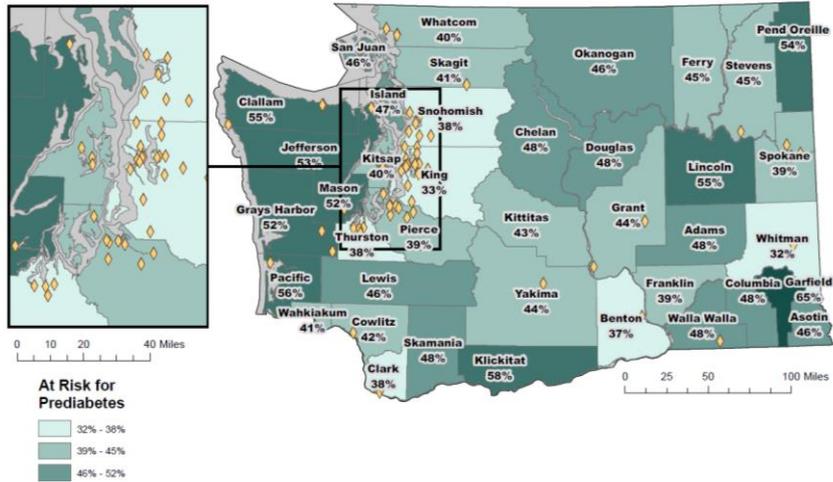
- Program locators (and visits to healthcare providers!) can help guide community members to local Diabetes Prevention Programs (DPP) and Diabetes Self Management Education (DSME)

Center for Disease Control and Prevention

WIN 2-1-1



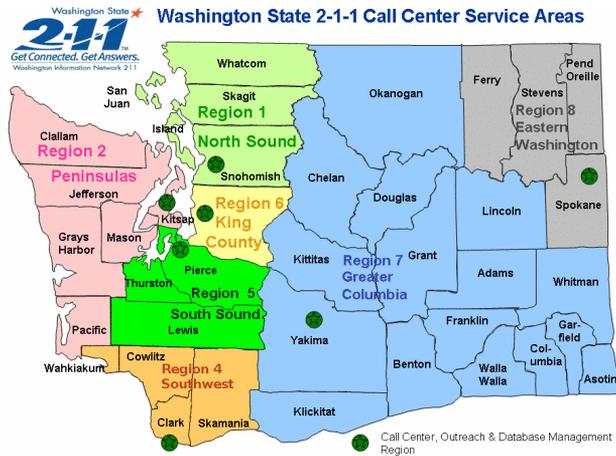
Washington State Diabetes Prevention Programs



Washington State Department of Health



2-1-1 Call Service Areas



Washington State Department of Health



Community Resources

- WIN 211.
 - <http://win211.org/>
- Self-Management Resource Center.
 - <https://www.selfmanagementresource.com/programs/small-group/diabetes-self-management/>
- Stanford Patient Education Research Center
 - <http://patienteducation.stanford.edu/programs/diabeteseng.html>
- Center for Disease Control and Prevention.
 - https://nccd.cdc.gov/DDT_DPRP/Registry.aspx

Additional Community Resources

- Washington State Diabetes Connection
 - <http://diabetes.doh.wa.gov/>
- Living Well with Chronic Conditions
 - <http://livingwell.doh.wa.gov/>
- Health Education Resource Exchange
 - <http://here.doh.wa.gov/>

In Summary...

- You can support your clients by:
 - Educating them about diabetes and prediabetes
 - Encouraging members to get screened for prediabetes and diabetes
 - Sharing resources about diabetes management and prevention



References

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- Prevent Diabetes STAT (<https://preventdiabetesstat.org/>)
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- Washington State Department of Health. (2016, November). [A Snapshot Diabetes in Washington][Infographic]. Retrieved from (<http://here.doh.wa.gov/materials/diabetes-a-snapshot-in-washington-infographic/WaDiabetesSnapshotFactsheet.pdf>)



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Certificate of Completion

Prediabetes and Diabetes in Washington State and Resources to Support Management and Prevention

Presented by
 Alexandro Pow Sang
 Diabetes Prevention Lead
 Washington State Department of Health

*Webinar aired on: November 9, 2017 in Lacey, Washington
 for Health Home Care Coordinators and Allied Staff*

Training Credit of 1 Hour

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