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

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

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 bloodstream.

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

- Type 1 Diabetes
- Type 2 Diabetes

Prediabetes

- As glucose levels increase, insulin goes up
- Insulin attaches to cell
- Insulin opens cell and glucose gets used as energy
Type 1 Diabetes

Glucose levels increase

No Insulin attaches to cell

Glucose is unable to enter cell to be used as energy

Type 2 Diabetes

Glucose levels increase

Insulin Resistance

Not enough insulin to keep up with demand
The Progression of Diabetes

There are no known means of preventing type 1 diabetes, and no modifiable risk factors.

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

**Diabetes**
- 30.3 million people have diabetes
- That's about 1 out of every 10 people
- 1 out of 4 don't know they have diabetes

**Prediabetes**
- 84.1 million adults have prediabetes
- 9 out of 10 people with prediabetes don't know they have it

Prediabetes in Washington

- 2 million adults in Washington have prediabetes
- That is about 1 out of 3 people
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.


*Data not comparable to earlier years due to changes in methods of collecting and analyzing data.
2015 Washington State
10 Leading Causes of Death

- 1st Cancer
- 2nd Heart Disease
- 3rd Alzheimer's
- 4th Unintentional Injury
- 5th COPD
- 6th Stroke
- 7th Diabetes Mellitus
- 8th Suicide
- 9th Liver Disease
- 10th Flu & Pneumonia

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.

![Graph showing undiagnosed diabetes and prediabetes rates by race and ethnicity.]

Burden of Diabetes In Washington State

- Primary diagnosis: 8,200
- Secondary diagnosis: 79,800

![Pyramid chart showing deaths and hospitalizations.]

$5 billion

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

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

---

**Average Annual Cost of Diabetes Per Person in Washington**

<table>
<thead>
<tr>
<th>Age in years⁴</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;45</td>
<td>$4,785</td>
</tr>
<tr>
<td>45-64</td>
<td>$6,094</td>
</tr>
<tr>
<td>≥65</td>
<td>$12,842</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years since diabetes diagnosis⁵</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤5</td>
<td>$6,380</td>
</tr>
<tr>
<td>6-15</td>
<td>$9,613</td>
</tr>
<tr>
<td>≥16</td>
<td>$14,412</td>
</tr>
</tbody>
</table>

---


---

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

⁴ - 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**

- 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

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal</th>
<th>Prediabetes</th>
<th>Type 2 Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1C</td>
<td>&lt;5.7</td>
<td>5.7 – 6.4</td>
<td>≥6.5</td>
</tr>
<tr>
<td>Fasting Plasma Glucose Levels</td>
<td>70-99</td>
<td>100-125</td>
<td>≥ 126</td>
</tr>
<tr>
<td>2-h Oral Glucose Tolerance Test</td>
<td>&lt;140</td>
<td>140 – 199</td>
<td>≥200</td>
</tr>
</tbody>
</table>

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

WHAT YOU SHOULD KNOW ABOUT PREDIABETES

Prediabetes means a person’s blood sugar (glucose) 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 steps to prevent Type 2 diabetes, the better their health outcomes will be.

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:

1. SCREEN
   Take the CDC Prediabetes Screening Test.

2. TEST
   Talk to your doctor about your risk for prediabetes. Take action.

3. ACT TODAY
   Find a diabetes prevention program to lose weight in a healthy way.
Supporting Self-Management

- Encourage participation in DPP and DSME programs

**Diabetes Prevention Program (DPP)**

**Diabetes Self-Management Education (DSME)**

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

---

Supporting Self-Management

- Encourage participation in DPP and DSME programs

**Diabetes Prevention Program (DPP)**

**Diabetes Self-Management Education (DSME)**

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

2-1-1 Call Service Areas

Washington State Department of Health

[Map showing call service areas]
Community Resources

• WIN 211.
  – http://win211.org/

• Self-Management Resource Center.

• Stanford Patient Education Research Center

• Center for Disease Control and Prevention.
  – https://nccd.cdc.gov/DDT_DPRP/Registry.aspx

Additional Community Resources

• Washington State Diabetes Connection

• 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

- American Diabetes Association – Standards of Medical Care in Diabetes 2017; Vol 40, Supplement 1, Jan. 2017
- American Association of Diabetes Educators: [www.diabeteseducator.org](http://www.diabeteseducator.org)
- Contra el Reloj - Día mundial de la diabetes. Retrieved from [https://www.youtube.com/watch?v=O-ZSk7zerE0](https://www.youtube.com/watch?v=O-ZSk7zerE0)
- Prevent Diabetes STAT [http://preventdiabetesstat.org](http://preventdiabetesstat.org)
- Living Well with Chronic Conditions [http://www.youtube.com/watch?v=7nOOG4t0x7A](http://www.youtube.com/watch?v=7nOOG4t0x7A)
- Take the Prediabetes Risk Test | Type 2 Diabetes Prevention | Ad Council. Retrieved from [https://www.youtube.com/watch?v=O-ZSk7zerE0](https://www.youtube.com/watch?v=O-ZSk7zerE0)
- Washington Information Network 211 [http://win211.org](http://win211.org)
Contact Information

Alexandro Pow Sang
• Diabetes Prevention Lead
• Washington State DOH
• Alexandro.PowSang@doh.wa.gov
• 360-236-3750

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

Please sign and date to attest that you reviewed this PowerPoint

_________________________________________  ____________________
Your Signature                          Date

_________________________________________  ____________________
Supervisor’s Signature                  Date