Diabetes Landscape of Oklahoma

Oklahoma Diabetes Caucus
Interim Study Group
October 10, 2017
What is Diabetes?

• High blood sugar (glucose) levels resulting from the body’s inability to produce and/or use insulin.

• Over time high blood glucose causes damage to the body.

# Types of Diabetes

<table>
<thead>
<tr>
<th>Type 1</th>
<th>Type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Body does not produce insulin</td>
<td>• Body does not make enough insulin or use insulin properly</td>
</tr>
<tr>
<td>• 5-10% of cases</td>
<td>• 90-95% of cases</td>
</tr>
<tr>
<td>• Requires insulin therapy</td>
<td>• Usually diagnosed in adults over age 40 but is becoming more common in younger adults and children</td>
</tr>
<tr>
<td>• Typically occurs in children and young adults</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gestational</th>
<th>Prediabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Develops during pregnancy</td>
<td>• Higher than normal blood sugar</td>
</tr>
<tr>
<td>• Greater risk for developing type 2 diabetes</td>
<td>• 15-30% risk of developing type 2 diabetes within 5-10 years</td>
</tr>
</tbody>
</table>

Risk Factors

Non-Modifiable

Age
Race/Ethnicity
Family History
Gestational Diabetes

Modifiable

Stress
Weight
Smoking
Activity Level
Eating Habits
High Blood Pressure
High Cholesterol

Racial/Ethnic Incidence

Percent of Diagnosed Diabetes by Race/Ethnicity in Oklahoma, 2016

- Caucasian: 11.8%
- American Indian: 16.7%
- African American: 14.3%
- Hispanic: 8.7%

Adapted from Centers for Disease Control and Prevention: Behavioral Risk Factor Surveillance System (BRFSS), 2016
Gestational

- Affects approximately **1 in 10** Oklahoma pregnancies
  - Incidence higher in those overweight prior to pregnancy
  - SoonerCare reports gestational diabetes in **60%** of pregnant population
- **30%** estimated to develop type 2 **post pregnancy**
- **50%** predicted to develop type 2 **within 10 years**

Their children have a **70% risk** of developing type 2.
Children

• 200,000 U.S. adolescents diagnosed with diabetes
  o Each year over 18,000 youth are diagnosed with type 1 and over 5,000 with type 2

• National Trend: 1 in 3 children born in the year 2000 and forward will develop type 2 diabetes in their lifetime

• Oklahoma Trend: 1 in 2 children will develop type 2 diabetes in their lifetime
  o 33.9% of Oklahoma children age 10-17 were overweight or obese in 2012
  o 32% of 3-year-olds in Oklahoma with WIC were overweight or obese in 2014

Overwhelming Burden

Diabetes
- 30.3 million in U.S. – 10%
- 440,000 in Oklahoma - 11.7%
- 1 out of 4 do not know

Prediabetes
- 84.1 million in U.S.
- 1,036,000 in Oklahoma
- 9 out of 10 do not know

Increasing Prevalence

1995

2005

2015

Oklahoma Diabetes Prevalence by Senate District, 2015

Legend
- Diabetes Prevalence
  - 6.2% - 11.1%
  - 11.2% - 12.9%
  - 13% - 14.9%
  - 15% - 17.8%

Notes:
Diabetes is defined as respondents who have been told by a doctor that they have diabetes.

District estimates were calculated by averaging the group of county-level estimates within the legislative district.

County-level data were estimated using a generalized linear mixed effects regression model with binomial outcome and a logit link function. This model was based on work by Serbojnjak et al., Zhang, X. et al., and Akcin, H.

Data Source:
2015 Behavioral Risk Factor Surveillance System, Oklahoma State Department of Health

Disclaimer: This map is a compilation of records, information and data from various city, county and state offices and other sources, affecting the area shown, and is the best representation of the data available at the time. The map and data are to be used for reference purposes only. The user acknowledges and accepts all inherent limitations of the map, including the fact that the data are dynamic and in a constant state of maintenance.
Urban vs. Rural Populations

Percentage of Diagnosed Diabetes by Location in Oklahoma, 2014

- Urban: 15.1% (OK), 14% (US)
- Suburban: 14.8% (OK), 12.8% (US)
- Rural: 17.4% (OK), 14.6% (US)

Source: CDC, Behavioral Risk Factor Surveillance System, 2014
Health Burden

- 3 amputations per day from diabetes-related blindness
- 24,000 with chronic kidney disease
- One in three people with diabetes die of stroke or heart disease
- Two out of three people with diabetes are diagnosed with diabetes everyday

Sources:
Oklahoma ranks **10th highest** in the nation for percent of adults diagnosed with diabetes.

Rise in Diabetes Prevalence 1995-2010

- **1st** OKLAHOMA 226.7%
- **2nd** KENTUCKY 158.3%


National Standing

1st in Diabetes Mortality

6th in High School Obesity

9th in Hypertension & Adult Obesity

[Links to sources]
Oklahoma Fiscal Impact

$3.7 Billion

- 5,813 inpatient admissions
- 7,264 hospital discharges
- 1,442 deaths
- 30% report inability to work
- 2 to 3 missed work days annually
- $4.9 billion in 2020


### Monthly Expenditure

<table>
<thead>
<tr>
<th>Insurer</th>
<th>General Population</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>$822</td>
<td>$1291</td>
</tr>
<tr>
<td>Medicaid</td>
<td>$395</td>
<td>$1610</td>
</tr>
<tr>
<td>Private</td>
<td>$416</td>
<td>$1452</td>
</tr>
<tr>
<td>State Employee</td>
<td>$422</td>
<td>$929</td>
</tr>
</tbody>
</table>

**Oklahoma Medicaid**
- 11.4% of adult members diagnosed with diabetes
- 9.3% increase in diabetes prevalence since SFY2011
- Diabetes reimbursement has increased 23.4% since SFY2010
SoonerCare

1,052,826 Enrolled

42,000 with Prediabetes

51,155 with Diabetes

1,936 Adolescents

49,219 Adults

$760 Million
Diabetes Self-Management Education (DSME)

• Utilized by 4% of persons with diabetes in Oklahoma

• Can improve health outcomes
  o Blood sugar, blood pressure and cholesterol
  o Medication adherence
  o Reduced hospital admissions
  o Reduced emergency department visits

• Can help lower health costs

• Covered by Medicare and most health plans except Oklahoma Medicaid

Diabetes Self Management Education (DSME) Sites Oklahoma, 2017

Diabetes Prevalence by Region
- 9.1 - 10.6
- 10.7 - 11.7
- 14.3
- 15.0


Projection/Coordinate System: USGS Albers Equal Area Conic
Created: 09.26.2017
Center for the Advancement of Wellness
Oklahoma State Department of Health
National Diabetes Prevention Program (NDPP)

• Utilized by 0.087% of Oklahomans with prediabetes

• Evidence-based lifestyle change program to:
  o Prevent type 2 diabetes
  o Improve blood sugar, blood pressure and cholesterol

• Covered by Medicare April 2018

• No private, Medicaid or state employee coverage in Oklahoma
National Diabetes Prevention Programs (NDPP), Oklahoma, 2017

Legend:
- NDPP General Population
- NDPP Tribal or IHS
- Fully Accredited NDPP
- OK Interstate
- County Boundaries

Data Source:
Oklahoma State Department of Health Geodatabase. Sites were obtained from the CDC DPP website.

Projection/Coordinate System: USGS Albers Equal Area Conic
Created: 09.26.2017

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Education in Oklahoma

**SUCCESSES**
- 59 DSME Locations
- 16 NDPP Locations

**BARRIERS**
- 440,000 with Type 2
- 1,036,000 with Prediabetes
- Referrals
- Reimbursement

Educator Experience

Travis Wolff, PharmD, BCACP

Joy Galloway, MS, RD/LD
Several patients attending his DSME classes have been able to reduce their insulin doses and certain oral medications.

He has had to turn away Medicaid patients on multiple occasions due to inability to pay for self-management education.
Session Break
Call to Action
What is Diabetes Self-Management Education (DSME)?

- The ongoing process of facilitating the knowledge, skill and ability for diabetes self-care
  - Incorporates needs, goals and life experiences of the person with diabetes

- Objectives of DSME
  - Informed decision making
  - Self-care behaviors
  - Problem-solving
  - Collaboration with the health care team
  - Improve clinical outcomes, health status, and quality of life

Persons with diabetes manage 99% of their care.

DSME Services

Core Sessions:

- Diabetes disease process and treatment
- Nutritional management
- Safe medication use
- Monitoring blood glucose
- Preventing, identifying and treating complications
- Developing strategies to address psychosocial issues and promote behavior change
- Incorporating physical activity into lifestyle

Ongoing support and follow-up post completion.
“... You know I LOVE Diabetes Education! ...diabetes education is the only thing with zero risk of adverse events and it has been shown to be more effective than most of the diabetes medications... you were able to find something in their lifestyle that they never knew was an issue and help them make better choices... some of my toughest patients... And I feel so fortunate to have you all ...!”

Kacy Aderhold, APRN
Norman Regional Endocrinology Associates
DSME Benefits

Improves control of blood glucose, blood pressure and cholesterol levels

Each 1% reduction in A1c reduces risk of complications by 40%

Lowers number of hospitalizations, length of stay, and inpatient costs

“... Many patients that have attended diabetes education tell me that they did not realize how much information they had forgotten... or how much information they just simply did not know. I have literally had to take people off insulin because they went to the diabetes educator and implemented the suggested changes... OFF insulin!”

Angela Genovese, APRN
Norman Regional Endocrinology Associates
Projected Savings

DSME Lower Health Costs by 5.7% reduces health costs by $
850 \text{ PER MEMBER} & $
3.4 \text{ Million with } 15\% \text{ participation}

Savings assume average cost of providing DMSE of $400 per person.

OHCA Diabetes Analysis SFY2016
National Diabetes Prevention Program (NDPP)

- Designed for adults with prediabetes or at high risk for developing diabetes and a BMI >24.
- Proven to be twice as effective as medication in reducing conversion to type 2 diabetes.
- Facilitates lasting lifestyle change – healthier eating, increased physical activity and improved coping skills.
- Focuses on goal setting in a realistic, doable, flexible and enjoyable manner.
NDPP Services

Twelve Month Program:
- 16 core sessions and 6 to 8 maintenance sessions
- Basic of diabetes and diabetes prevention
- Nutritional management
- Incorporating physical activity into lifestyle
- Identifying and coping with stress and negative triggers
- Getting support
- Goal setting

Ongoing support available post completion.
NDPP Benefits

58% reduction in conversion to Type 2

Improved health outcomes

Benefit beyond participant

STOP Type 2

Stroke

Heart Disease

Projected Savings

DIABETES PREVENTION
IMPACT TOOLKIT

Year 1 ➔ 150 Cases Averted
Year 3 ➔ ROI of $229 per person = $1.6 Million
Year 5 ➔ ROI of $1,102 per person = $4.5 Million
Year 10 ➔ ROI of $1,769 per person = $12.1 Million

QUALITY & QUANTITY of LIFE

Savings assume $400 per participant, $8,607 in health care costs per person with diabetes, eligible population of 42,000 and 16% participation (6,865)

Expert Examples

Robert Rader, MD, DPh, MBA
Teresa Brown, MPH, RD/LD, CDE
Call to Action

Legislator SUPPORT
1. By District
2. By State

Legislative ACTION
1. Medicaid adoption of DSME/NDPP
2. State employee coverage of NDPP
3. Private payer adoption of NDPP

NOW
NOW
2020
2021
2022
Steps to Success

SUPPORT
- Diabetes Caucus
- Existing DSME/NDPP
- Private/Medicare Coverage
- Physician Referral
- Legislator Support
- Increased Access

GROWTH
- Medicaid Coverage
- State Employee Coverage
- Private Payer Adoption

ACTION
- Physician Referral
- Legislator Support
- Increased Access

CHANGE
- Improved Health
- Decreased Costs
- Sustainability

Senator Frank Simpson