

# Characterization of Lack of Diabetes Screening Among Nondiabetic Persons in Alabama, 2013

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CSTE

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# Background

- **29 million Americans have diabetes**
  - 12.3% of U.S. adult population
  - One in 4 remain undiagnosed



- **86 million U.S. adults have prediabetes**
  - 37% of U.S. adults
  - Only 11% are aware of having prediabetes



\* Centers for Disease Control and Prevention. National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014. Atlanta, GA: U.S. Department of Health and Human Services; 2014.

Centers for Disease Control and Prevention (CDC). (2013, March 22). Awareness of Prediabetes - United States, 2005-2010. MMWR. Morbidity and Mortality Weekly Reports.

# Diabetes Screening Recommendations

- **ADA recommends screening:**
  - Age  $\geq 45$
  - Overweight or obese with one other risk factor\*
- **New USPSTF draft recommendation for diabetes screening:**
  - Age  $\geq 45$
  - Overweight or obese
  - First-degree relative with DM
  - Certain minority groups
    - Including African American, Hispanic/Latino, American Indians
  - Women with :
    - history of gestational diabetes
    - polycystic ovarian syndrome
- **Screen every 3 years**
  - Annual if higher risk or previously elevated values

\*Additional risk factors include: racial/ethnic minority, hypertension, low LDL, high triglyceride, history of cardiovascular disease, gestational diabetes or insulin resistance, first degree relative with diabetes, physical inactivity, delivery of baby  $>9$  lb

## Diabetes Screening Question

- So why do so many people NOT know they have prediabetes or diabetes?
- Are they being screened for it?
- If you don't know you have it, you can't fix it!



# Data Source

- **Behavioral Risk Factor Surveillance Survey (BRFSS)**
  - Nationwide annual telephone survey (cell phone and landline)
  - Collects self-reported health and health risk data
  - >100,000 U.S. participants
    - 6,500 in Alabama
  - Provides state-level estimates of disease conditions and health behaviors



# 2013 BRFSS Questionnaire

## Awareness of diabetes screening:

*“Has a doctor, nurse or other health professional EVER told you that you have diabetes?”*

or

*“Have you ever been told by a doctor or other health professional that you have prediabetes or borderline diabetes?”*

NO



YES



*“Have you had a test for high blood sugar or diabetes within the past 3 years?”*

NO



YES



**DIABETES or PREDIABETES**  
**(excluded)**

**Lacks Screening**

No diabetes or prediabetes

## Methods

- **Diabetes screening analysis (n=4,239) excluded respondents with:**
  - Known diabetes, gestational diabetes, prediabetes or missing diabetes status (n=1,998)
  - Unknown or missing testing status (n=266)
- **SAS 9.2 weighted analysis accounting for sampling design**
- **Calculated prevalence ratios for respondent characteristics**

## Prevalence of Self-reported Diabetes Screening Within 3 Years Among Nondiabetic Persons—Alabama, 2013

Factor	Prevalence of diabetes screening (%)
Overall	53.5
Male	50.3
Education <high school	47.1
Annual household income <\$25,000	47.6
Physical activity guidelines met	53.2
African American	51.5
Age ≥45 years	63.7
Body mass index (BMI) ≥25	56.8
History of hypertension	66.1
History of elevated cholesterol	67.3

Highlighted factors are among indications for receiving diabetes screening



# Health System-related Factors for Lacking Diabetes Screening

Factor	Prevalence		
	Ratio	95% CI	P -value
Perceived cost barriers to care	<b>1.3</b>	<b>1.16—1.45</b>	<b>&lt;0.0001</b>
Gap in health insurance coverage	<b>1.4</b>	<b>1.10—1.66</b>	<b>0.010</b>
No health insurance	<b>1.6</b>	<b>1.43—1.76</b>	<b>&lt;0.0001</b>
Lacks identified personal health provider	<b>1.7</b>	<b>1.55—1.87</b>	<b>&lt;0.0001</b>
No medical checkup <5 years	<b>1.9</b>	<b>1.72—2.07</b>	<b>&lt;0.0001</b>

## Conclusions on Self-reported Testing for Diabetes

- **Many Alabama adults not aware of diabetes status**
  - Nearly half of nondiabetic Alabama adults report NOT tested for diabetes <3 years
  - Includes 1 in 3 people aged  $\geq 45$  years
  - Nearly half of African Americans and overweight/obese persons
- **Many lacking diabetes screening have other medical conditions increasing risk**
  - 24% have high blood pressure
  - 33% have elevated cholesterol



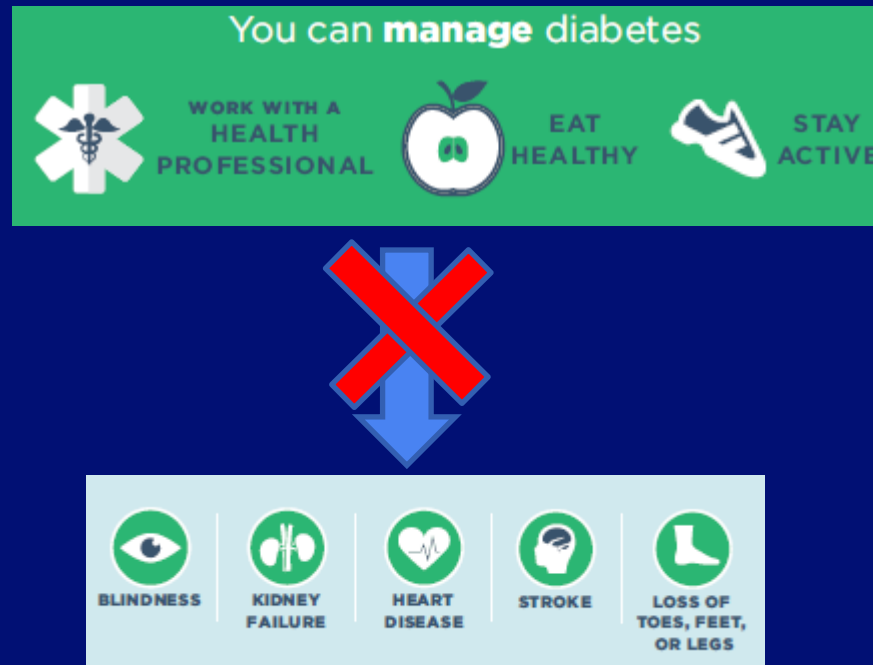
# Barriers to Diabetes Screening

- **Financial barriers to health care access**
  - Lack of health insurance
  - Recent gap in coverage
  - Perceived cost barriers
- **Inadequate patient engagement in health care systems**
  - No recent general medical checkup
  - No identified personal health-care provider



## Consequences

- Missed opportunity for early detection and treatment
- Earlier care reduces health complications and costs



## Possible Solutions

- Increase awareness of diabetes, prediabetes, and importance of early screening
- Improve screening using new, broader recommendations of risk groups
- Expand access to health insurance and health systems
- Focus on patient-centered wellness homes and preventive services



## Summary

- Identifying people at risk and testing them early for diabetes or prediabetes is key
- Progression of diabetes, complications, and costs can be reduced with early intervention



# Thank you!

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