Social Determinants of Obesity and Diabetes – A Framework for Intervention

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14th Annual Jean Mills Health Symposium

East Carolina University

February 2, 2018


REACHING FOR
Health Equity
A world where all people have the opportunity to attain the best health possible.
BEST HEALTH POSSIBLE
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Imagine this…

- Scenario: There is a mid-size city of ~300,000 people in a state about 100 miles north of the Mason-Dixon line. The east side of the city is characterized by high rates of type 2 diabetes, obesity, HIV infection, and deaths due to heart disease and strokes. The median income is ~$35,000/year, high school dropout rates are >60% for boys, and unemployment is >15% for all people living in this community.
- Question 1: Who lives in this community? (e.g., describe their race/ethnicity, age, household composition, other demographic variables)
- Question 2: How do you know?

Scenario 2

- Your college roommate invites you to come to his house the weekend before the semester starts for an “end of summer celebration.” You pack up your car and head to his community in the southeastern part of the country. As you drive inside the city limits, you pass a Whole Foods Market, a Caribou Coffee Shop, and a shopping mall two blocks away with shops like Nordstrom’s, Neiman Marcus, and Saks Fifth Avenue. There are smoothie and frozen yogurt shops along the street. You notice a bike lane to your right as several cyclists pass you. It is just after 4:00 pm and children are walking home from school. Moms and toddlers are playing in a small park circled by a walking trail across the street from the elementary school that just let out for the day. An elderly couple – holding hands as they take their daily walk, stop to chat with some of the children as they race home to an afternoon snack.
- Who lives in this community? Will they have a different health profile than the people in the first community? How do you know?

So, what do these scenarios have to do with social determinants of health?

Examining the social and physical contexts of community health

Presentation Objectives

- Define terms
- Describe national prevalence of obesity and diabetes
- Highlight initiatives and resources that can be helpful in addressing obesity and type 2 diabetes

Health Disparities, Social Determinants of Health, and Health Equity

Old Challenges and New Opportunities

The Heckler Report

In 1985, the United States Department of Health and Human Services (HHS) released a landmark report which documented the existence of health disparities among racial and ethnic minorities in the United States and called such disparities "an affront both to our ideals and to the ongoing genius of American medicine."

From HHS, OMH, History of the Office of Minority Health at
http://www.minorityhealth.hhs.gov/omh/

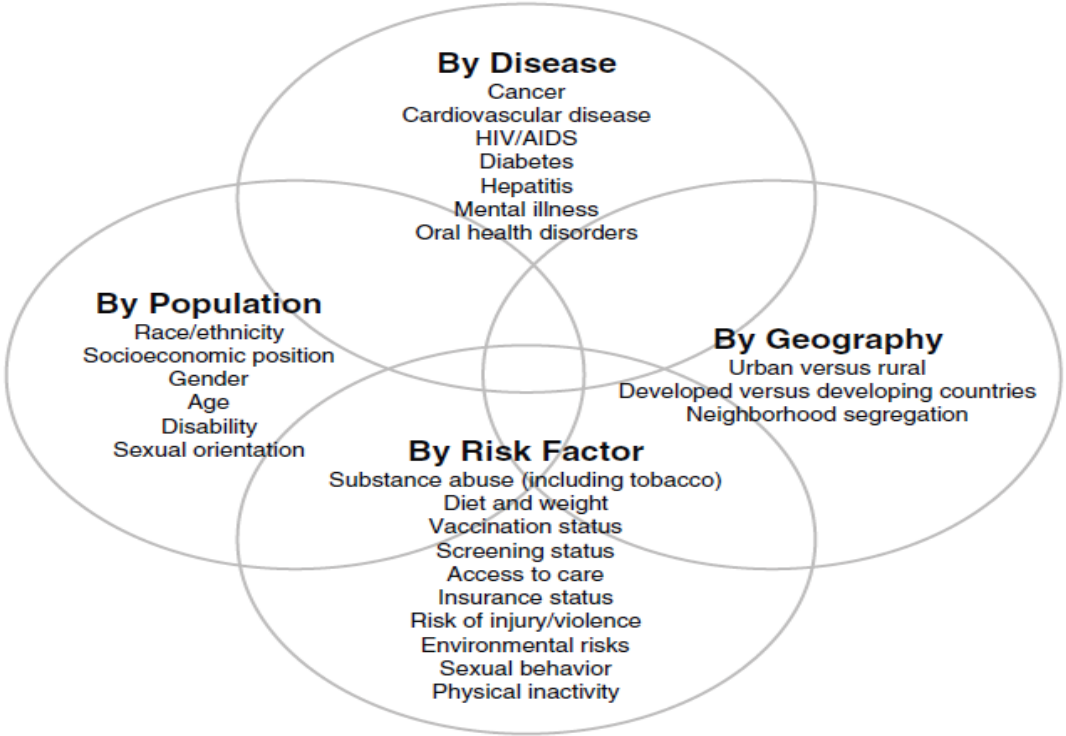
For the full report, see the U.S. National Library of Medicine at
http://collections.nlm.nih.gov/catalog/nlm:nlmuid-8602912-mvset

Defining health disparities

Health disparities are differences in health outcomes and their determinants between segments of the population, as defined by social, demographic, environmental, and geographic attributes.

Carter Pokras, O., Baquet, C. “What is a health disparity?” Public Health Rep 2002; 117:426-34.

Multiple lenses to view health disparities



Koh et al. (2013) Institute of Medicine Report, “How far have we come?”

Defining social determinants of health

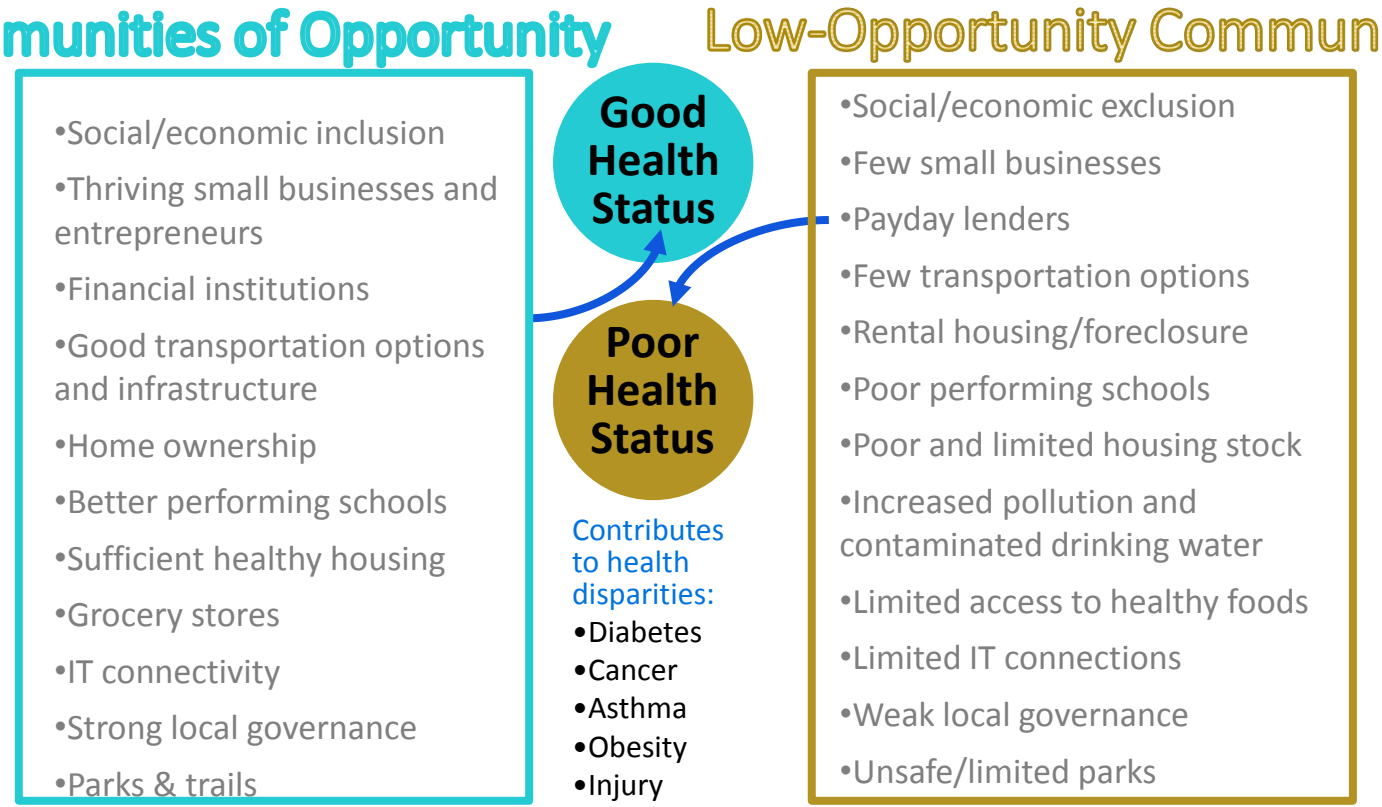
Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

Conceptualizations of the Social Determinants of Health

Ottawa Charter	Health Canada	WHO	CDC
• Peace • Shelter • Education • Food • Income • Stable ecosystem • Sustainable resources • Social justice • Equity	• Income and social status • Social support networks • Education • Employment and working conditions • Physical and social environments • Healthy child development • Health services • Gender • Culture	• Social gradient • Stress • Early life • Social exclusion • Work • Unemployment • Social support • Addiction • Food • Transport	• Socio-economic status • Transportation • Housing • Access to services • Discrimination by social grouping • Social or environmental stressors

Adapted from: Dennis Raphael (2011) A discourse analysis of the social determinants of health, Critical Public health, 21:2, 221-236

Expanding our understanding of what creates health



Ed Ehlinger, MD, MPH, State Health Commissioner, Minnesota Department of Public Health, Presentation given at CDC, October 18, 2016

Defining health equity

- Health equity is the attainment of the highest level of health for all people.
- Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and healthcare disparities.

U.S. Department of Health and Human Services, Office of Minority Health. National Partnership for Action to End Health Disparities. The National Plan for Action Draft as of February 17, 2010 [Internet]. Chapter 1: Introduction. Available from: http://www.minorityhealth.hhs.gov/npa/templates/browse.aspx?&lvl=2&lvlid=34.

Arriving at health equity

- Epidemiology
- Social epidemiology
- Epigenetics
- Social and behavioral sciences
- Statistics

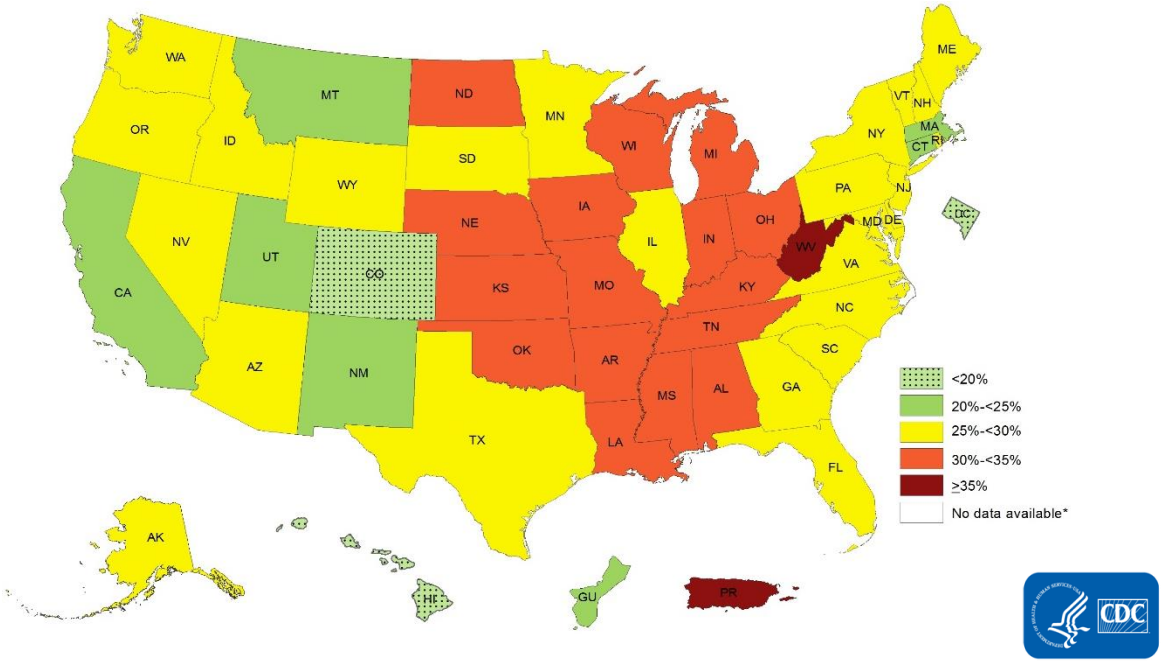
- Neighborhood/ Built environment
- Education
- Economic stability
- Health and health care
- Social and community context

- More opportunities to achieve best health possible
- Multi-sector engagement
- Community engagement

Epidemiology & Statistics

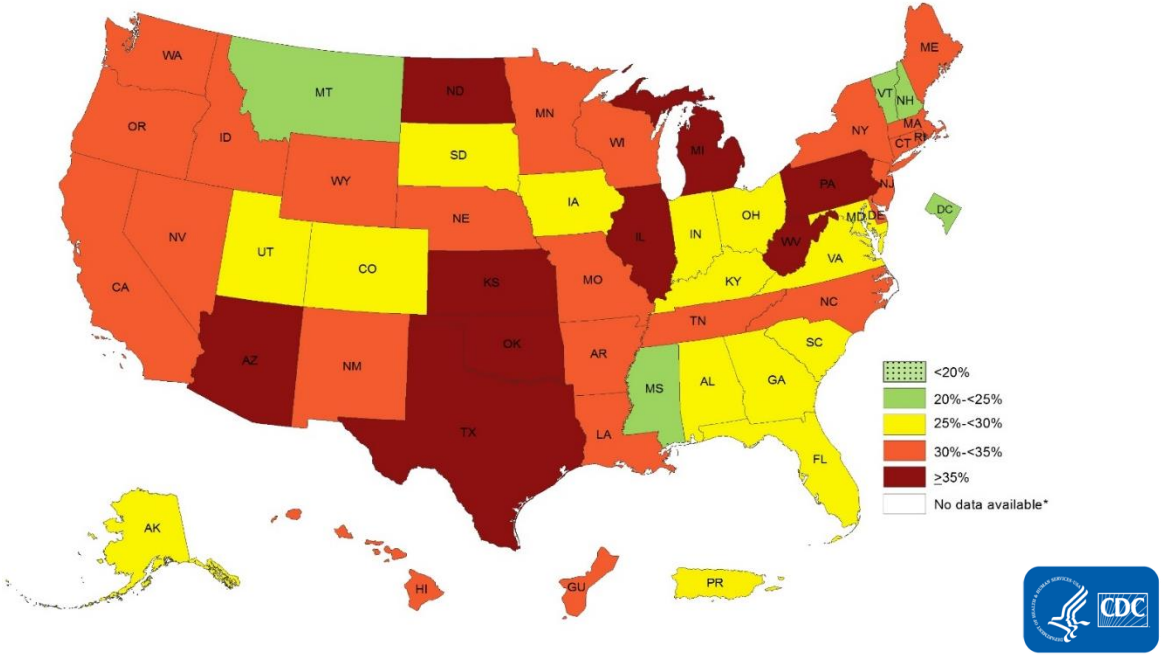
What do we know about the prevalence of obesity & type 2 diabetes?

Prevalence of Self-Reported Obesity Among Non-Hispanic White Adults, by State and Territory, BRFSS, 2014-2016



*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.

Prevalence of Self-Reported Obesity Among Hispanic Adults, by State and Territory, BRFSS, 2014-2016



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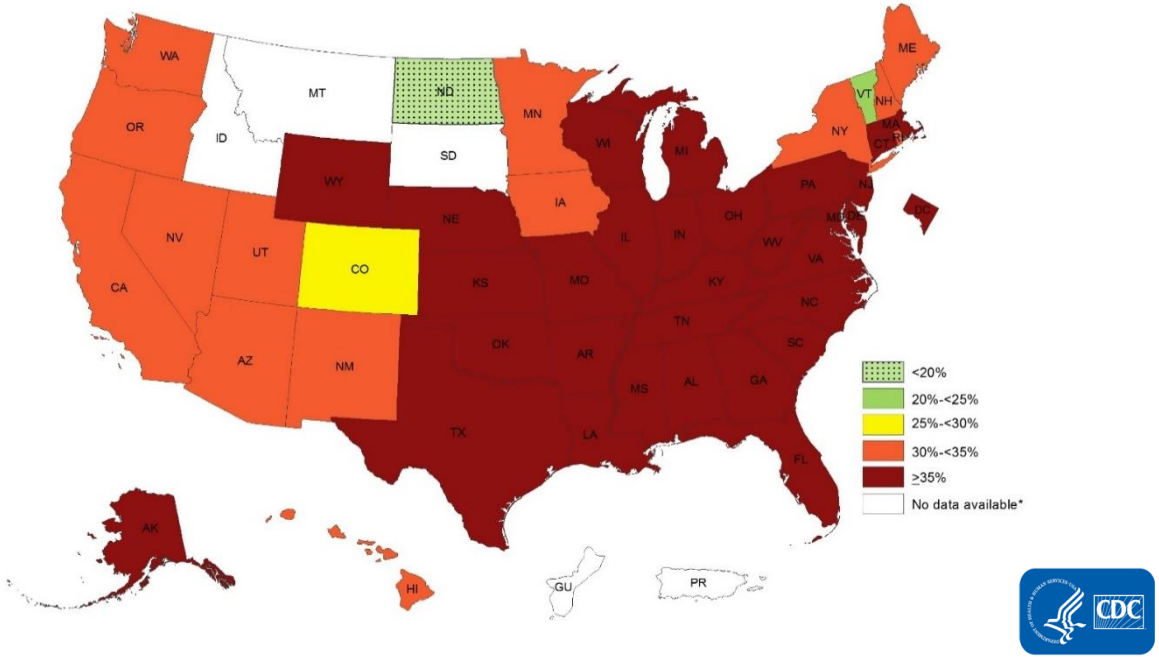
Prevalence of Self-Reported Obesity Among Non-Hispanic Black Adults, by State and Territory, BRFSS, 2014-2016



*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.

Many Factors Can Contribute to Obesity

Addressing obesity can start in the home, but also requires the support of providers and communities.

We can all take part in the effort to encourage children to be more physically active and eat a healthy diet.

Researchers have found that many factors can increase a person's risk of being overweight or obese. These include:

- Genetics
- Policy
- Environment
- Behavior

Obesity affects some groups more than others

- Certain populations are more at risk for obesity and some health-related behaviors
  - **Hispanics and non-Hispanic blacks have a higher prevalence of obesity (47%)** than non-Hispanic whites (38%) and non-Hispanic Asians (13%)
  - **Women have a higher prevalence of obesity** than men among non-Hispanic black, non-Hispanic Asian, and Hispanic adults
  - Compared to adults living in metropolitan counties, **adults in more rural areas are more likely to -**
    - Be current smokers
    - Not have a normal body weight
    - Not meet the aerobic physical activity recommendations

Our goal is to help support Americans' journey to good health, especially those most vulnerable to chronic disease

Diabetes

Diabetes by the Numbers

- 30.3 million US adults have diabetes, and 1 in 4 of them don't know they have it.
- Diabetes is the seventh leading cause of death in the U.S.
- Diabetes is the No.1 cause of kidney failure, lower-limb amputations, and adult-onset blindness.
- In the last 20 years, the number of adults with diabetes has more than tripled as the American population has aged and become more overweight or obese.

https://www.cdc.gov/diabetes/basics/diabetes.html

Prediabetes

- In the US, 84.1 million adults—more than 1 in 3—have prediabetes, and 90% of them don't know they have it.
- Prediabetes is a serious health condition where blood sugar levels are higher than normal, but not high enough yet to be diagnosed as diabetes.
- Prediabetes increases your risk(https://www.cdc.gov/diabetes/basics/risk-factors.html) for type 2 diabetes, heart disease, and stroke.

https://www.cdc.gov/diabetes/basics/diabetes.html

Who's at Risk?

Prediabetes

- Are overweight
- Are 45 years or older
- Have a parent, brother, or sister with type 2 diabetes
- Are physically active less than 3 times a week
- Have ever had gestational diabetes or given birth to a baby who weighed more than 9 pounds
- Are African American, Hispanic/Latino, American Indian or Alaska Native (some Pacific Islanders and Asian Americans are also at higher risk.

Type 2 Diabetes

- **Have prediabetes**
- Are overweight
- Are 45 years or older
- Have a parent, brother, or sister with type 2 diabetes
- Are physically active less than 3 times a week
- Have ever had gestational diabetes or given birth to a baby who weighed more than 9 pounds
- Are African American, Hispanic/Latino, American Indian or Alaska Native (some Pacific Islanders and Asian Americans are also at higher risk.

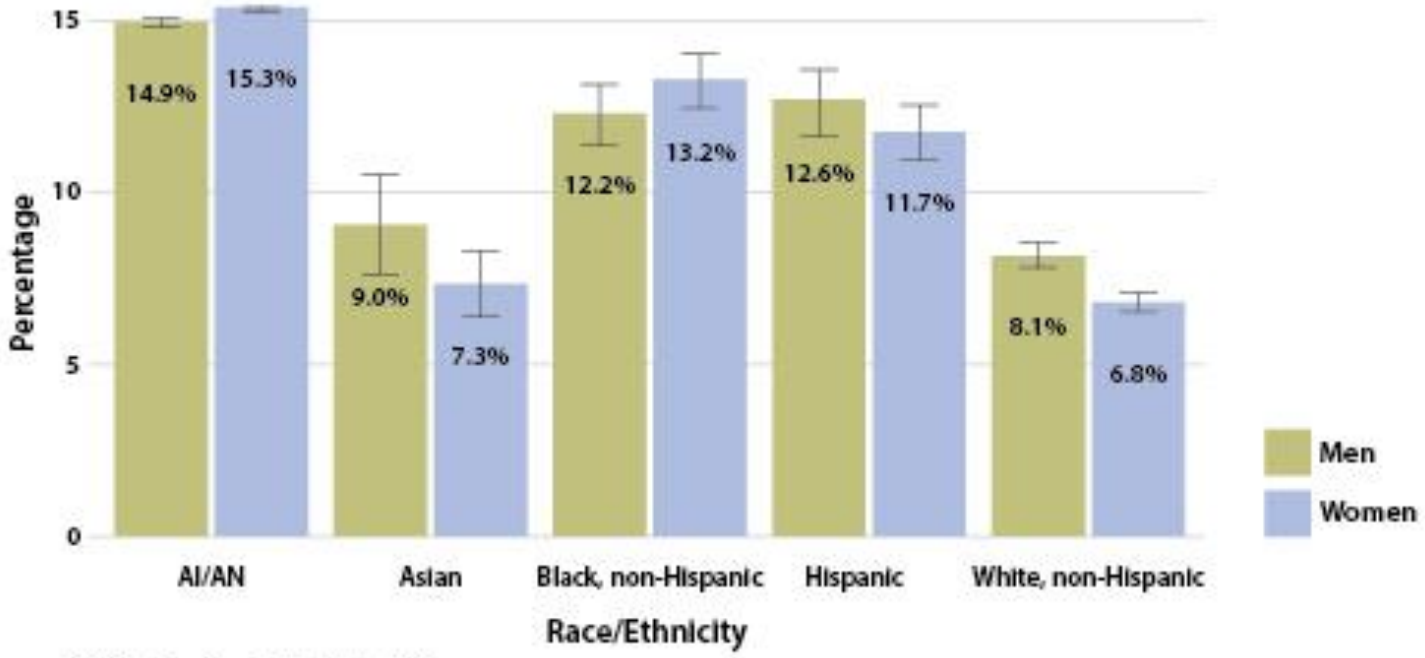
https://www.cdc.gov/diabetes/basics/risk-factors.html

Contribution of family history to the burden of diagnosed diabetes

- During 2009–2014, the prevalence of family history of diabetes in the U.S. was 37% among people ≥ 20 years.
- Among people ≥ 20 years in the U.S., 20.7 million had diagnosed diabetes (DD), 7.0 million had undiagnosed diabetes (UD), and 79.6 million had prediabetes (PD).
  - Of these, approximately 10.1 million cases (48.7%) with DD, 1.4 million cases (20.6%) with UD, and 3.9 million cases (4.9%) with PD were attributed to having a family history of diabetes.
- Family health history continues to be an integral component of public health campaigns to identify people at high risk for developing diabetes.

Moonesinghe R, Beckles GLA, Liu T, Khoury MJ. Genet Med. 2018

Estimated age-adjusted prevalence of diagnosed diabetes by race/ethnicity and sex among adults aged ≥ 18 years, United States, 2013-2015

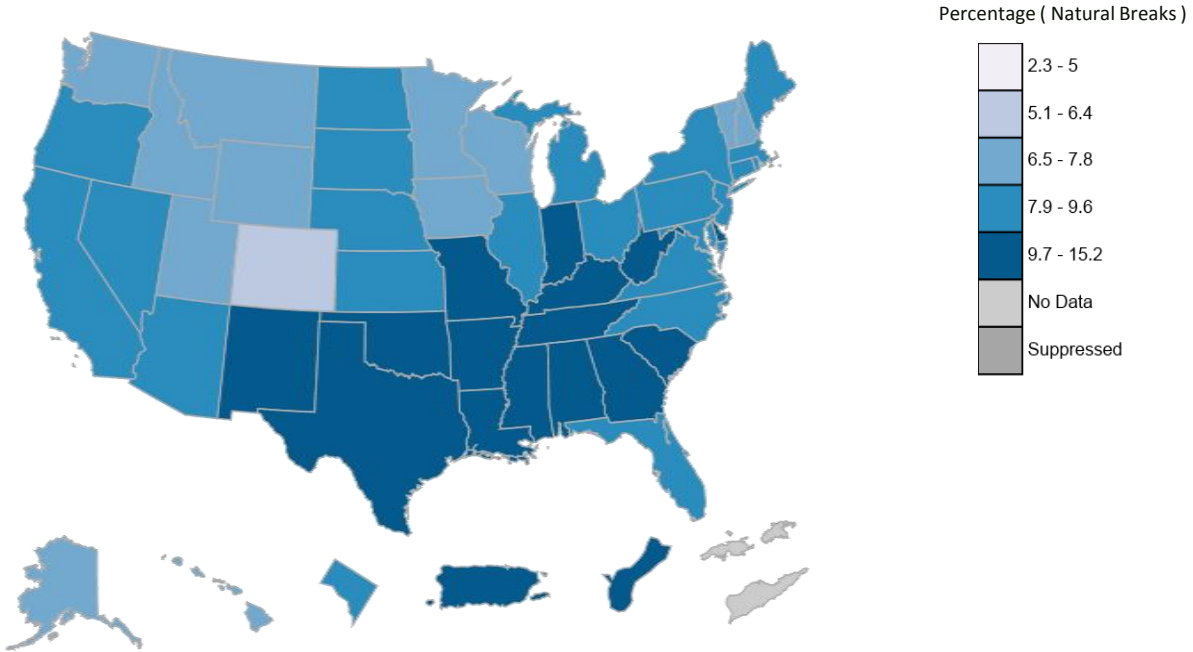


AI/AN = American Indian/Alaska Native.

Note: Error bars represent upper and lower bounds of the 95% confidence interval.

Data source: 2013–2015 National Health Interview Survey, except American Indian/Alaska Native data, which are from the 2015 Indian Health Service National Data Warehouse.

Age-Adjusted Percentage of Adults with Diagnosed Diabetes - U.S. States, 2015



Source: www.cdc.gov/diabetes/data

Disclaimer: This is a user-generated report. The findings and conclusions are those of the user and do not necessarily represent the views of the CDC.

Social factors that impact diabetes self-management obesity prevalence

Social determinants of diabetes and obesity

- Cultural beliefs
- Gender roles
- Access to health care and patient-provider communication
- Economic stability
- The built environment and community infrastructure
- Educational attainment
- Role models*

Clark, M.L. and Sharon W. Utz. (2014) Social Determinants of type 2 diabetes and health in the United States. World J of Diabetes. Jun 15; 5(3), 296-304.

Having their Say: Patient's Perspectives and the Clinical Management of Diabetes

Commentary

Leonard Jack Jr., PhD, MSc; Leandris C. Liburd, PhD, MPH, MA; Pattie Tucker, DrPH, MPH, RN; and Tarisha Cockrell, MPH. *Having their Say: Patient's Perspectives and the Clinical Management of Diabetes* Clinical Therapeutics, April 2014, Volume 36, Number 4; 469-476.

PubMed: 24731864 http://www.ncbi.nlm.nih.gov/pubmed/24731864

Reducing Obesity in High Obesity Areas

Since 2014, CDC's High Obesity Program has funded land grant colleges and universities in states with counties that have more than 40% prevalence of adult obesity. Currently, 11 states are funded.

Healthy Eating Strategies:

- Apply healthier nutrition standards to food and beverages available in public venues
- Increase access to and promote healthier food retail
- Promote farm-to-pre-school programs to increase access to fruits and vegetables

Physical Activity Strategies:

- Increase access to safe places for physical activity
- Improve safe streets/community design initiatives
- Promote physical activity and reduce screen time at early care and education centers

Success in Los Angeles: Community Health Councils, Inc.

Social Determinant

- Lack of access to grocery stores, parks, and walking trails in South Los Angeles.

Community Action

- Educating the community about the benefits of healthy community design and working with grocers and businesses to provide healthy food options.

Change

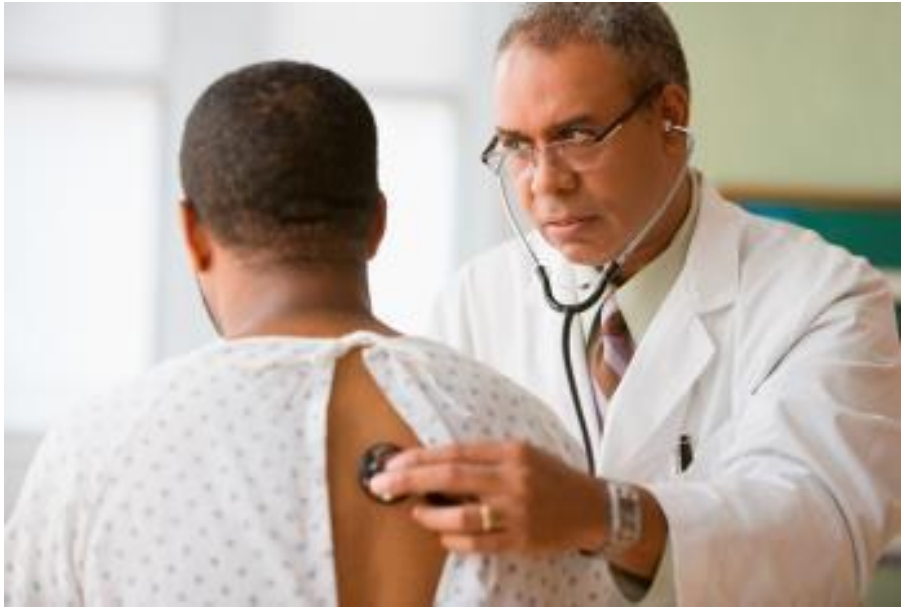
- Seven new full-service grocery stores and three neighborhood convenience stores that carry healthier food options.
- 18 new parks scheduled to be built.

Success in Kentucky: Healthy Eating

A city-wide community garden master plan with a focus on food desert neighborhoods has given 1,300 residents training in safe urban gardening practices.

Clinical and Community Preventive Services: YMCA

Through referrals from local clinics and health care providers, most of the YMCA's Diabetes Prevention Programs support African American and Hispanic/Latino participants.



Addressing the Social Determinants of Health– Community-wide Health Improvement Initiatives

www.cdc.gov/socialdeterminants

www.cdc.gov/CHInav

Other Federal, National, and Global Initiatives Advancing Health Equity

- Healthy People 2020 – Social Determinants of Health Topic Area: www.healthypeople2020.gov
- CLAS Standards (National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care): http://minorityhealth.hhs.gov/omh
- A Practitioner's Guide for Advancing Health Equity: http://www.cdc.gov/NCCDPHP/dch/health-equity-guide
- CDC Social Determinants of Health Website: http://www.cdc.gov/socialdeterminants
- HI-5: http://www.cdc.gov/policy/hst/hi5

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.