

# Diabetes Health

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# No disclosures



## Objectives

Consider the increasing prevalence of diabetes in the U.S., particularly in those populations most at risk.

What are some of the practice gaps?

What is the evidence to support these practice gaps?

Future implications for practice

# Two clinical examples

A Native American/American Indian woman in her 60's advises me her provider told her an A1c of 7.8% “was borderline diabetes” (2020).

A Black woman in her 70's advised me her son's pcp at the VA told him, “We don't use the A1c to diagnose diabetes in Black people” (2020).

What do we do next? What contributes to these practice “gaps/lapses?” in care?

# Background

Bopp (2011), suggested strategies to achieve the goals of Healthy People 2020 (updated to 2030):

Working within myriad sectors to improve policies and strengthen practices based on evidence, knowledge, and research.

The need to work within an identified community to assess health outcomes, particularly those outcomes that “promote health, prevent disease and encourage participation in healthy behaviors, “

Communities e.g. Hispanic adults, “with an identified history or risk of prevalent chronic diseases such as cardiovascular disease, obesity, [and] diabetes,” (p. 453).

- Two of the overarching goals of Healthy People 2020 [were] to be free of preventive diseases related to weight and diet and to eliminate health disparities (Improving the Health of Americans, 2011).
- I moved to New Mexico in 2013 and had to adjust my DNP project.
- I had to consider the different demographics in Maryland vs. New Mexico.
- One opportunity that would contribute to the assessment of health outcomes as well as encouragement of healthy behaviors, is to screen those groups, including Hispanic adults, who are at risk to develop T2DM

- The DNP project took place in a community setting and was a collaboration between the selected local residents and the health care center. The healthcare center was selected by the community ambassadors working with the DNP student/clinician and was identified because they knew it as welcoming and safe; immigration status [was] not an issue there.
- Literature search demonstrated specific information was lacking about how to prevent diabetes in rural communities, and where limited resources directed toward diabetes prevention are available.

## Data/Analysis

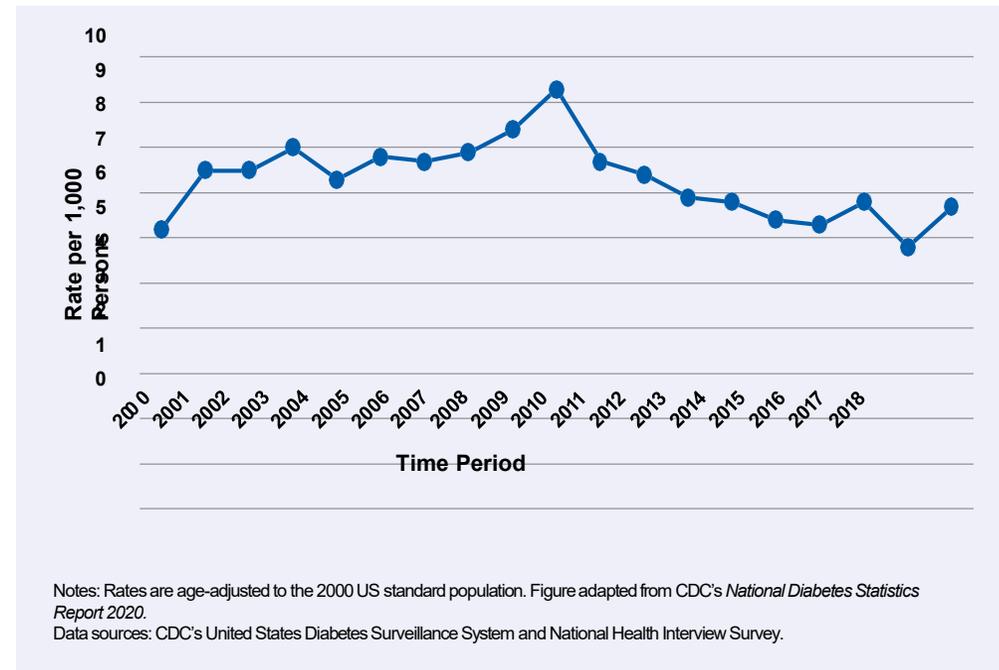
- Age ranges of eligible participants ranged from 22 to 58; mean age of 32.5 years old, mode age 33.
- Fifty-six % of participants reported a family history of T2DM; most common family member
- mother (n=5), and grandmother (n=4).
- The scores from the scores from the NDEP screening tool (higher risk with score  $\geq$  5):
- Scored below at or below 5: n=5 (21%)
- Scored above 5 n=12 (79%)

Analysis included frequency distribution table(s) and descriptive statistics.

- Small number of completed tools completed; limited analysis and correlation of results; literature did not support specific analysis tool; descriptive analysis was applied to the results of the demographic questionnaire and the NDEP tool.

Trends in Incidence of Diagnosed Diabetes Among Adults Aged 18 Years or Older, United States, 2000–2018.

This figure shows diabetes incidence trends during 2000–2018, with a declining curve after 2009. The decrease in diabetes incidence may be due to multiple factors that cannot be determined by current data. Compared to adults aged 18–44 years, incidence rates of diagnosed diabetes are estimated to be higher among adults aged 45–64 years and among those aged 65 years or older.<sup>12</sup>







## Diabetes Prevalence

Members of some ethnic minority groups are more likely to have diagnosed diabetes than non-Hispanic whites.

**American Indian or Alaska Native adults have the highest rates of diagnosed diabetes 14.7 %**

13% among all *US ethnic* groups

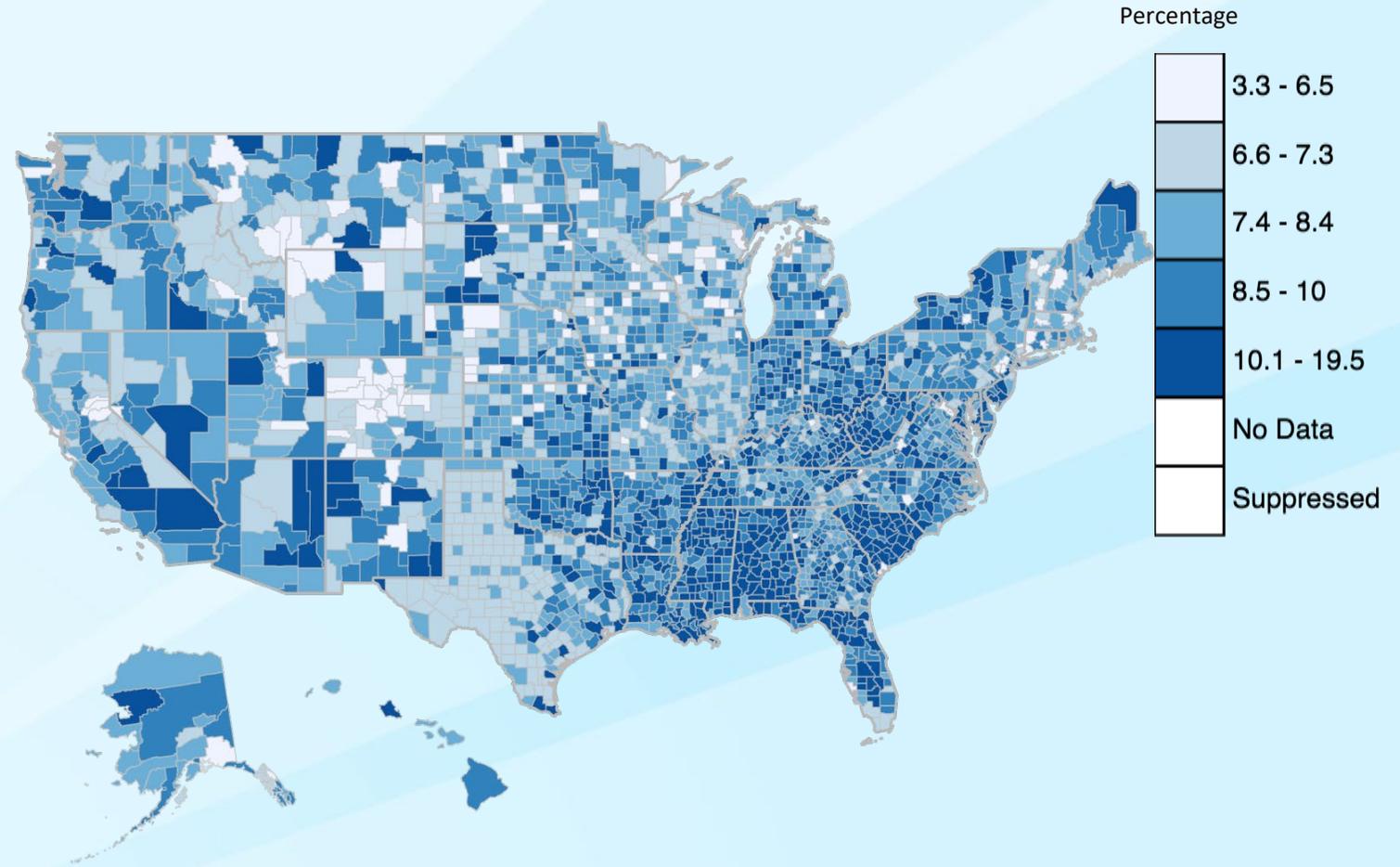
12.5 % Hispanics (US Census term)

11.7% non-Hispanic Blacks

## Ethnicity and Education

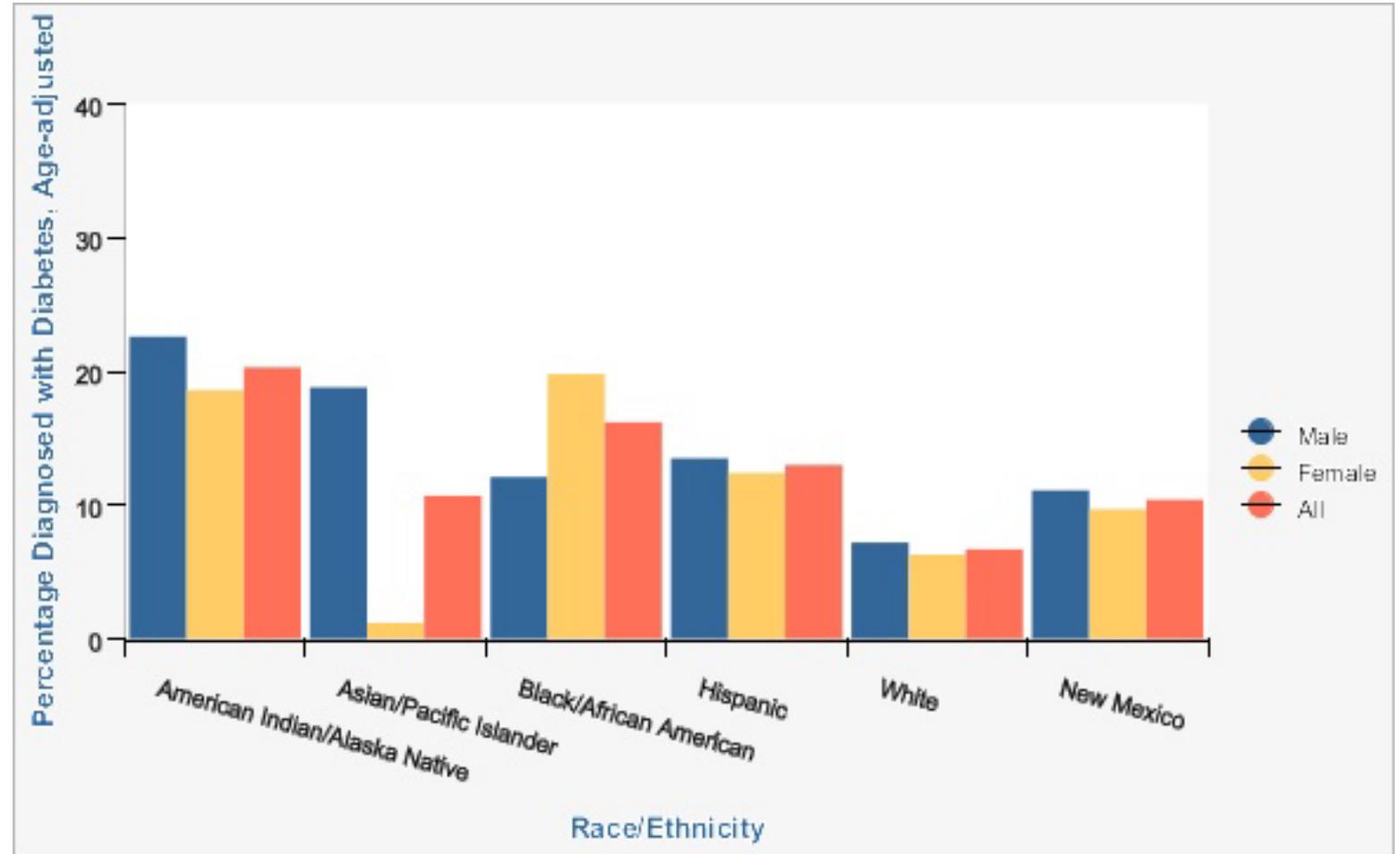
Differences in diabetes prevalence are seen in the overall US population and within ethnic groups according to socioeconomic position (level of education attained and the income-to-poverty ratio).

The prevalence of diabetes has increased among non-Hispanic whites (US Census term) with less education and lower education and lower incomes among Hispanics with less education.

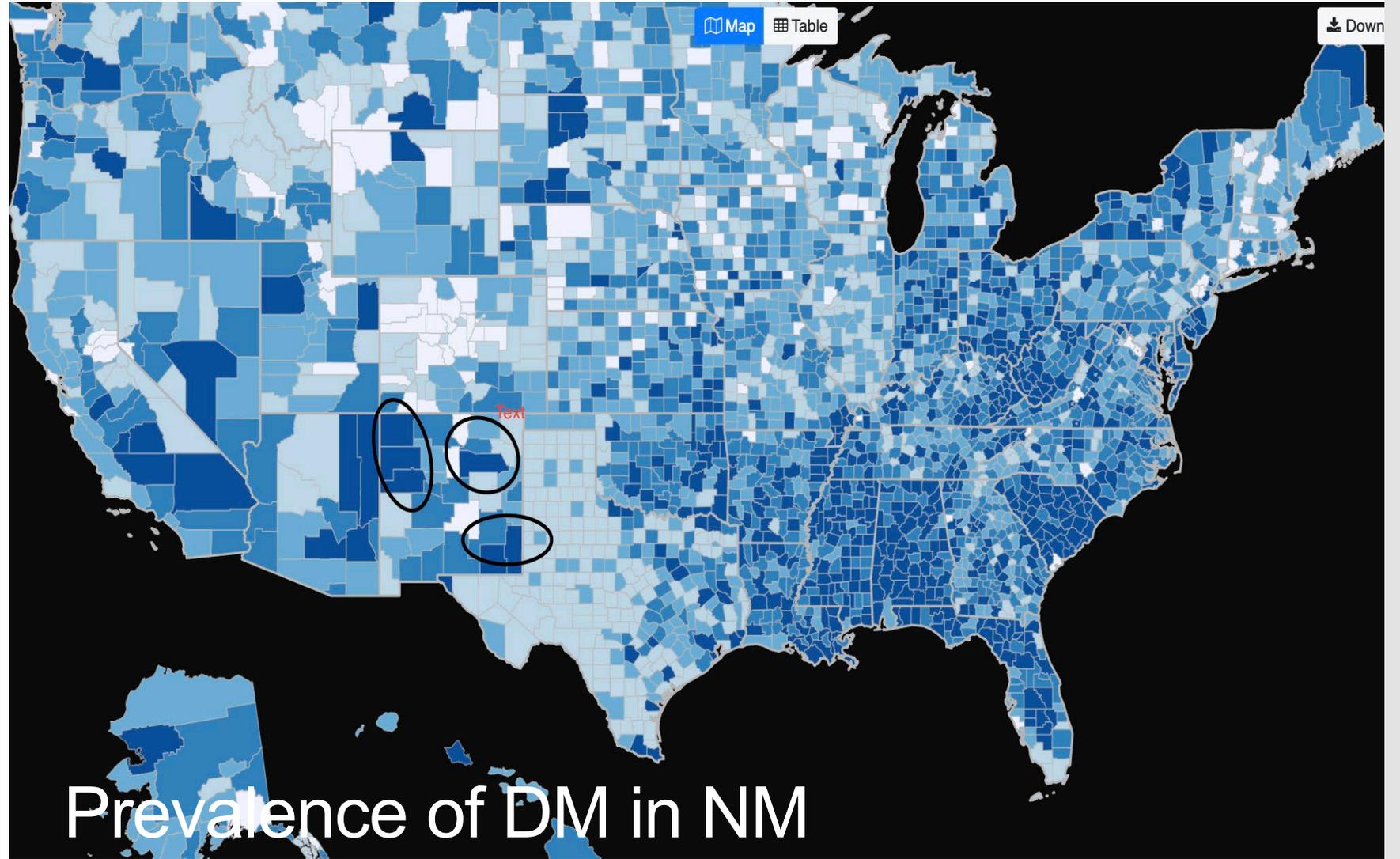


[www.cdc.gov/diabetes/data](http://www.cdc.gov/diabetes/data)

# Diabetes in New Mexico



[https://ibis.health.state.nm.us/indicator/complete\\_profile/diabprevl.html](https://ibis.health.state.nm.us/indicator/complete_profile/diabprevl.html) (last reported data collected 2017)



# Evidence to support use of diabetes risk test (next slide)

- Awareness of diabetes risk is low, and many adults with prediabetes are not identified through existing screening efforts.<sup>1</sup>
- Type 2 diabetes (T2D), chronic kidney disease (CKD), atherosclerotic cardiovascular disease (ASCVD), and heart failure (HF)—along with their associated risk factors—have overlapping etiologies, and two or more of these conditions frequently occur in the same patient.<sup>2</sup>
- Preventing diabetes at the population level requires the development of scalable and sustainable approaches to assess diabetes risk, screen those at high risk, and deliver evidence-supported interventions to high-risk individuals<sup>1</sup>

1. Bowen, M. E., Schmittiel, J. A., Kullgren, J. T., Ackermann, R. T., & O'Brien, M. J. (2018). Building Toward a Population-Based Approach to Diabetes Screening and Prevention for US Adults. *Current diabetes reports*, 18(11), 104.

2. Handelsman, Y., Anderson, J. E., Bakris, G. L., Ballantyne, C. M., Beckman, et al. (2022). DCRM Multispecialty Practice Recommendations for the management of diabetes, cardiorenal, and metabolic diseases. *Journal of diabetes and its complications*, 36(2), 1-22.



diabetes.org/socrisktest

Classification and Diagnosis of Diabetes:  
*Standards of Medical Care in Diabetes - 2022. Diabetes Care 2022;45(Suppl. 1):S17-S38*



# Are you at risk for type 2 diabetes?

## Diabetes Risk Test:

- How old are you? .....  
 Less than 40 years (0 points)  
 40-49 years (1 point)  
 50-59 years (2 points)  
 60 years or older (3 points)
- Are you a man or a woman? .....  
 Man (1 point)      Woman (0 points)
- If you are a woman, have you ever been diagnosed with gestational diabetes? .....  
 Yes (1 point)      No (0 points)
- Do you have a mother, father, sister or brother with diabetes? .....  
 Yes (1 point)      No (0 points)
- Have you ever been diagnosed with high blood pressure? .....  
 Yes (1 point)      No (0 points)
- Are you physically active? .....  
 Yes (0 points)      No (1 point)
- What is your weight category? .....  
*See chart at right.*

WRITE YOUR SCORE IN THE BOX.








ADD UP YOUR SCORE.

| Height | Weight (lbs.) |          |          |
|--------|---------------|----------|----------|
| 4' 10" | 119-142       | 143-190  | 191+     |
| 4' 11" | 124-147       | 148-197  | 198+     |
| 5' 0"  | 128-152       | 153-203  | 204+     |
| 5' 1"  | 132-157       | 158-210  | 211+     |
| 5' 2"  | 136-163       | 164-217  | 218+     |
| 5' 3"  | 141-168       | 169-224  | 225+     |
| 5' 4"  | 145-173       | 174-231  | 232+     |
| 5' 5"  | 150-179       | 180-239  | 240+     |
| 5' 6"  | 155-185       | 186-246  | 247+     |
| 5' 7"  | 159-190       | 191-254  | 255+     |
| 5' 8"  | 164-196       | 197-261  | 262+     |
| 5' 9"  | 169-202       | 203-269  | 270+     |
| 5' 10" | 174-208       | 209-277  | 278+     |
| 5' 11" | 179-214       | 215-285  | 286+     |
| 6' 0"  | 184-220       | 221-293  | 294+     |
| 6' 1"  | 189-226       | 227-301  | 302+     |
| 6' 2"  | 194-232       | 233-310  | 311+     |
| 6' 3"  | 200-239       | 240-318  | 319+     |
| 6' 4"  | 205-245       | 246-327  | 328+     |
|        | 1 point       | 2 points | 3 points |

If you weigh less than the amount in the left column: 0 points

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009 • Original algorithm was validated without gestational diabetes as part of the model.

### If you scored 5 or higher:

You are at increased risk for having type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes, a condition in which blood glucose levels are higher than normal but not yet high enough to be diagnosed as diabetes. Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanics/Latinos, Native Americans, Asian Americans, and Native Hawaiians and Pacific Islanders.

Higher body weight increases diabetes risk for everyone. Asian Americans are at increased diabetes risk at lower body weight than the rest of the general public (about 15 pounds lower).

### Lower Your Risk

The good news is you can manage your risk for type 2 diabetes. Small steps make a big difference in helping you live a longer, healthier life.

If you are at high risk, your first step is to visit your doctor to see if additional testing is needed.

Visit diabetes.org or call 1-800-DIABETES (800-342-2383) for information, tips on getting started, and ideas for simple, small steps you can take to help lower your risk.

# Consider the Population

In my experience as a provider, it is important to consider when developing strategies that utilize the knowledge, perceptions, opinions, and concerns *of the targeted population*:

One must ask how patients describe the role of weight and diet, including asking patients to describe *if* or *how* they might see themselves at risk for developing diabetes.



# New Mexico Context



## Test Adults Less Than 45 with Following Conditions/Health Status (2019)

| Condition                | % Not Tested in 3 years |
|--------------------------|-------------------------|
| Obese                    | 46.9%                   |
| Ever High Blood Pressure | 48.5%                   |
| No Leisure PA            | 59.8%                   |
| Dx'd MI, CHD, or Stroke  | 39.7%                   |

# Clinical practice guidelines: Practice Gap #1

All current clinical practice guidelines (CPGs) recommend screening high-risk groups for diabetes...

but with some variation in how high risk is defined, including the number of risk factors necessary before screening.

The ADA along with the American Association of Clinical Endocrinologists (AACE), and American College of Endocrinology (ACE) recommend screening all adults, using a plasma glucose test or HbA1c, beginning at age 45( age 35 per 2022 guidelines) regardless of risk factors (the ADA also recommends screening overweight or obese adults of any age with at least one risk factor) .

Screening for prediabetes and/or type 2 diabetes should be considered after the onset of puberty or after 10 years of age, whichever occurs earlier, in children and adolescents with overweight (BMI 85th percentile) or obesity (BMI 95th percentile) and who have one or more risk factor for diabetes.

# Clinical Inertia: Practice Gap #2

1. Clinical inertia once patient is diagnosed with diabetes.

- Consider the cardiovascular effects (micro- and macro-vascular) when diabetes is not adequately managed; medications not updated/changed.
- Consider the social and structural determinants of health.
- Use of clinical guidelines addresses *aspects* of the above.



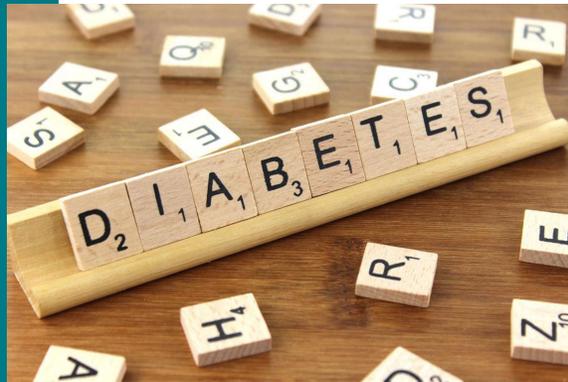
**1.5** Assess food insecurity, housing insecurity/homelessness, financial barriers, and social capital/social community support to inform treatment decisions, with referral to appropriate local community resources.

**1.6** Provide patients with self-management support from lay health coaches, navigators, or **community health workers** when available.

American Diabetes Association. Standards of medical care in diabetes-2022 abridged for primary care providers. *Clin Diabetes*, 1 January 2022;

40 (1): 10–38.

Resources in  
New Mexico: The  
NM Department  
of Health  
Diabetes  
Prevention and  
Control Program  
(DPCCP)



Targeting  
communities at  
risk.

- National Diabetes Prevention Program (NDPP)

Nutrition

- Kitchen Creations
- Diabetes Self-Management programs (DSME)

Working  
with  
clinics  
and  
clinicians

- Technical assistance via Planned Care Model
- Patient Centered Medical
- Home
- Electronic Health Records

# Future indications for practice



Work with your clinic team (clinicians, CHW, SW, etc.) to determine metrics to be measured and how.



Collect data for targeted population(s) and consider the evidence for best practices (outreach, outcomes, cost).



Work against  
clinical inertia



Telemedicine to  
increase access



Me trying to eat less carbs, increase water intake, stay awake at work, have enough energy for the gym and not get fiesty

Consider  
*all* of what people  
living with diabetes (PWD)  
contend with.



Thank you!!

Questions?

- American Diabetes Association. Standards of medical care in diabetes-2022 abridged for primary care providers. *Clin Diabetes*, 1 January 2022; 40 (1): 10–38.
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- Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes (UKPDS 33). UK Prospective Diabetes Study (UKPDS) Group. *Lancet*. 1998 Sep 12;352(9131):837-53.
- Luo H, Beckles GL, Zhang X, Sotnikov S, Thompson T. (2014) [The relationship between county-level contextual characteristics and use of diabetes care services](#). *J Public Health Manag Pract*. 20(4), 401–410.