#### Community & Clinical CONNECTIONS for Prevention & Health Branch MORTH CAROLINA DHHS Branch MORTH CAROLINA DHHS IN NORTH CAROLINA DHHS

## What is prediabetes?

- Prediabetes is a condition whereby people have higher than normal blood glucose (sugar) levels, but not yet high enough to be diagnosed as diabetes.
- Prediabetes is a precursor of type 2 diabetes, as well as a risk factor for heart disease and stroke. With a lifestyle change program, people with prediabetes can lower their risk of developing type 2 diabetes by as much as 58%.<sup>12</sup>
- Unlike diabetes, prediabetes often has no noticeable symptoms.
- Prediabetes can be developed at any age from childhood and adolescence through adulthood.



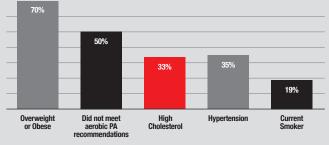
## How many people have prediabetes?

- About 88 million US adults (34.5%) have prediabetes.<sup>1,3</sup>
- Nationwide, more than 84% of individuals with prediabetes are not aware of their condition.<sup>1,3</sup>
- If the measured national prevalence for prediabetes of 34.5% is applied to the North Carolina adults, then about 2.5 million North Carolinians may have prediabetes. However, only about 980,000 North Carolinian adults with prediabetes (13.6 % of the population) reported being told by a health professional that they had this condition.<sup>4</sup> This suggests that over 1.5 million North Carolinians may have prediabetes but are unaware of their condition.
- About 177 adults in North Carolina develop diabetes every day;<sup>5</sup> without intervention people with prediabetes are more likely to develop diabetes.

## What are the risk factors for prediabetes?

• The risk factors include older age (45 years and older), a family history of type 2 diabetes (parent, brother or sister) and race/ ethnicity (African-Americans, Hispanics and other minority groups), overweight/obesity, physical inactivity, high cholesterol, high blood pressure and smoking.

# Figure 1. Prevalence of risk factors for prediabetes, North Carolina, 2019



Data Source: North Carolina State Center for Health Statistics. Behavioral Risk Factor Surveillance System (BRFSS) schs.dph.ncdhhs.gov/data/brfss/survey.htm

 Additional risk factors for prediabetes specific to women include: gestational diabetes (abnormal blood sugar during pregnancy), giving birth to a baby who weighed more than 9 pounds and having a history of polycystic ovary syndrome (a common condition characterized by irregular menstrual periods, excess hair growth and obesity).

## How is prediabetes diagnosed?

- CDC has a simple screening tool that uses seven questions to assess an individual's risk of prediabetes.<sup>6</sup> A score of five or higher indicates a high risk for prediabetes, and a confirmatory blood test for prediabetes (Table 1) is recommended.
- Fasting blood glucose, oral glucose tolerance test, and HbA1c are blood tests used to confirm both prediabetes and diabetes as shown in Table 1.
- In North Carolina, only three out of five adults (63%) without a known diagnosis of diabetes have had a blood sugar test within the last three years.<sup>7</sup>

#### Table 1: Diagnostic test criteria for prediabetes

Test	Normal	Prediabetes	Diabetes
Fasting Blood Glucose	less than	100 mg/dl	126 mg/dl
(FBG)	100 mg/dl	to 125 mg/dl	or higher
Oral Glucose Tolerance	less than	140 mg/dl	200 mg/dl
Test (OGTT)	140 mg/dl	to 199 mg/dl	or higher
HbA1c	less than 5.7%	5.7% to 6.4%	6.5% or higher

**Source:** American Diabetes Association, Diagnosing Diabetes and Learning About Prediabetes. diabetes.org/diabetes-basics/diagnosis

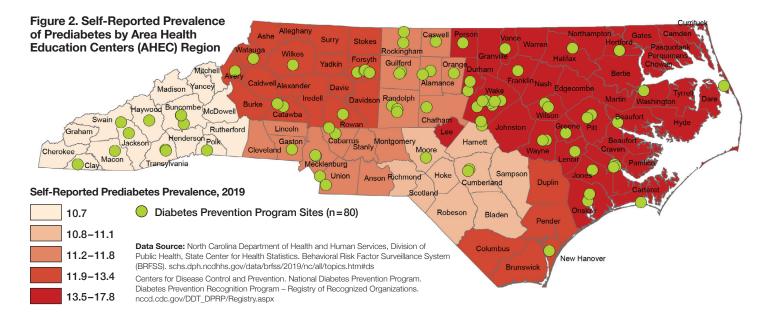
#### How is prediabetes treated?

- Once an individual is diagnosed with prediabetes, the main goal of treatment is to delay or prevent progression to type 2 diabetes.
- Losing a modest amount of weight (5% to 7% of total body weight) through healthy eating and moderate physical activity with the help of a lifestyle change program, such as the CDCrecognized National Diabetes Prevention Program, has been proven to be the most effective way of delaying or preventing progression from prediabetes to type 2 diabetes.<sup>1</sup>
  - For more information, visit DiabetesFreeNC.com or call the North Carolina Diabetes Prevention Program Navigator at 844-328-0021.
- Metformin, a drug used to control blood sugar, has also been shown to be somewhat effective in delaying or preventing progression from prediabetes to type 2 diabetes, but it is not as effective as lifestyle change.<sup>2</sup>

#### How is prediabetes prevented?

For individuals who do not have prediabetes, prevention can be achieved by addressing the following modifiable risk factors:

- Preventing overweight/obesity through regular physical activity and healthy eating. For general information on physical activity and healthy eating please visit **esmmweighless.com**.
- Preventing and/or controlling high cholesterol and high blood pressure through lifestyle change and medications if necessary.
- Avoiding tobacco products and secondhand smoke for non-smokers and quitting for current smokers. For general information about smoking and how to get help quitting please visit: **quitlinenc.com** or call 1-800-QUIT-NOW.



#### REFERENCES

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4. North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. Behavioral Risk Factor Surveillance System (BRFSS). Accessed at schs.dph.ncdhhs.gov/data/brfss/2019/nc/all/prediab.html on June 21, 2021. The 2019 estimates of the NC population were obtained from schs.dph.ncdhhs.gov/interactive/query/population/nchspop.cfm.

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7. North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. Behavioral Risk Factor Surveillance System (BRFSS). Accessed at schs.dph.ncdhhs.gov/data/brfss/2019/nc/all/PDIABTST.html on June 21, 2021.

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This fact sheet was produced by the Community and Clinical Connections for Prevention and Health Branch, Chronic Disease and Injury Section, Division of Public Health, NC Department of Health and Human Services. If you have any questions about data used in this fact sheet or about diabetes prevention and control efforts in North Carolina, please email contact@communityclinicalconnections.com.

For more information on the Community and Clinical Connections for Prevention and Health Branch, please visit communityclinicalconnections.com.