

### **North Carolina Diabetes Advisory Council**

North Carolina's Guide to
Diabetes Prevention and Management 2020
March 23, 2021

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www.diabetesnc.com
https://www.diabetesnc.com/diabetes-advisory-council/





#### **Disclosures to Participants**

**Notice of Requirements for Successful Completion:** 

For successful completion, participants are required to be in attendance in the full 'live' webinar activity and complete the program evaluation at the conclusion of the educational event. Those viewing the recorded webinar are not eligible for continuing education credit.

**Presenter Conflicts of Interest/Financial Relationships Disclosures:** 

Laura Emerson Edwards, RN, MPA – None Chris Memering, MSN, RN, CDCES, FADCES – None

Disclosure of Relevant Financial Relationships and Mechanism to Identify and Mitigate Conflicts of Interest: No conflicts of interest

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In support of improving patient care, the Association of Diabetes Care & Education Specialists is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team







North Carolina's Guide to Diabetes Prevention and Management

2020



MANAGE WEIGHT | LIVE TOBACCO FREE | PARTICIPATE IN LIFESTYLE CHANGE PROGRAMS PARTICIPATE IN DIABETES EDUCATION | ADHERE TO TREATMENT PLAN | GET ADEQUATE SLEEP



https://www.diabetesnc.com/wp-content/themes/dnc/assets/downloads/1120/DiabetesGuide2020 Screen.pdf

### **Learning Objectives/Program Overview**

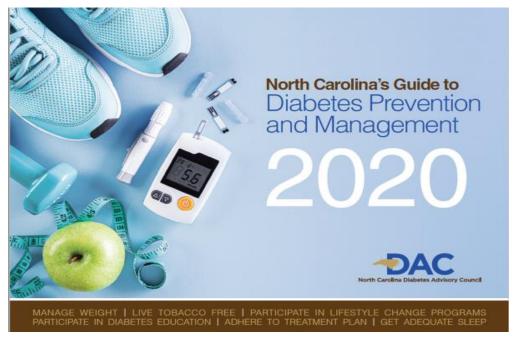
This live webinar will discuss prediabetes and diabetes in NC, provide an overall review of the Guide, and address actions that individuals/organizations can take to decrease the burden of diabetes in NC.

The webinar will discuss social determinants of health and health equity to prevent and manage diabetes at the individual, relationship, community and society levels.

The webinar will provide information and address roles of the interprofessional team in focus areas for prevention and management.

The desired outcomes are increased awareness and understanding of diabetes and prediabetes incidence, knowledge of primary prevention and management strategies, and understanding of the social determinants of health related to diabetes.





## Purpose

NC's Guide to Diabetes Prevention and Management 2020



## Call to Action to Prevent and Manage Diabetes

- Increase understanding of the impact of diabetes in North Carolina
- Provide specific strategies to assist people managing their risk for developing and/or managing diabetes, including reducing risk of complications
- Describe opportunities to reduce the burden of diabetes using policy and advocacy in NC





## The Burden of Diabetes in NC

- 12.5% of North Carolinians have diabetes
  - 1.3M North Carolinians have Type 1 or Type 2 diabetes
  - In past 10 years, 33% increase in the % of people diagnosed
- 34.5% of NC adults have prediabetes
  - >80% of those with prediabetes are not aware they have it
- ~3,000 people were projected to die in 2020, directly or indirectly because of diabetes and its complications
- NC is ranked 7<sup>th</sup> in nation for diabetes related death



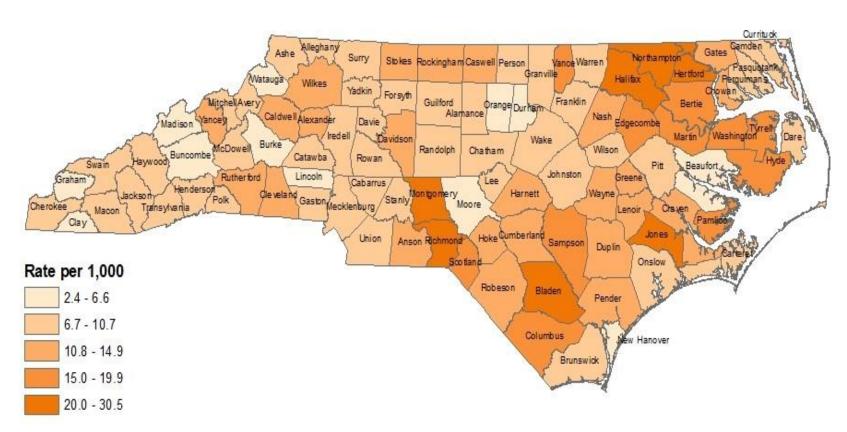
## The Cost of Diabetes in NC

- People with diabetes have medical expenses 2.3 times higher than those without diabetes
- In 2017, diabetes accounted for \$11 billion in direct and indirect healthcare costs in NC

 Diabetes was the primary cause for 23,713 NC hospitalizations in 2018, at a cost of \$790 million



# Newly Diagnosed Diabetes, Adults Aged 20+ Years, Age-Adjusted Rate per 1,000, NC Counties, 2017

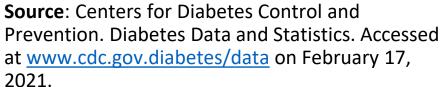


**Source**: Centers for Diabetes Control and Prevention. Diabetes Data and Statistics. Accessed at <a href="www.cdc.gov.diabetes/data">www.cdc.gov.diabetes/data</a> on February 17, 2021.



# Diagnosed Diabetes, Adults Aged 20+ Years, Age-Adjusted Percentage, NC Counties, 2017





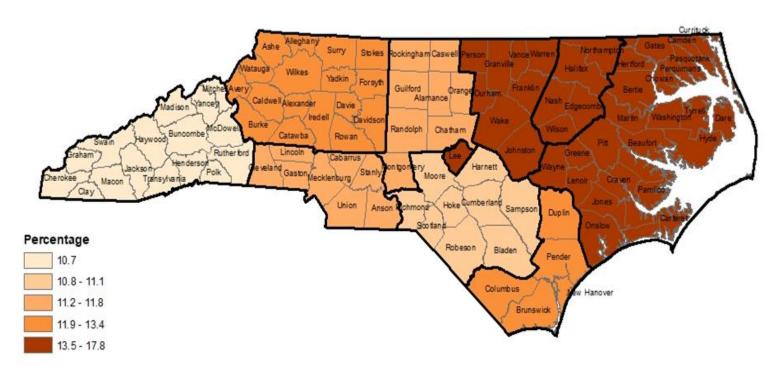


## Self-Reported Prediabetes and Diabetes Prevalence by Region, NC, 2019

Area Health Education Centers (AHEC) Region	Prevalence of Prediabetes	Prevalence of Diabetes
North Carolina	13.6%	11.8%
Mountain AHEC	10.7%	10.1%
Northwest	13.2%	14.6%
Charlotte	11.8%	10.6%
Greensboro	11.7%	10.4%
Southern Regional	11.1%	15.1%
Southeast	13.4%	12.0%
Wake	16.7%	8.3%
Area L & Eastern	17.8%	14.1%



# Self-Reported Prediabetes Prevalence by Area Health Education Centers (AHEC) Region, NC, 2019



**Source:** System (BRFSS). Accessed at <a href="https://schs.dph.ncdhhsce:">https://schs.dph.ncdhhsce:</a> North Carolina Department of Health and Human Services, Division of Public Health, State Center for Health Statistics. Behavioral Risk Factor Surveillance.gov/data/brfss/2019/nc/all/topics.htm on February 17, 2021.

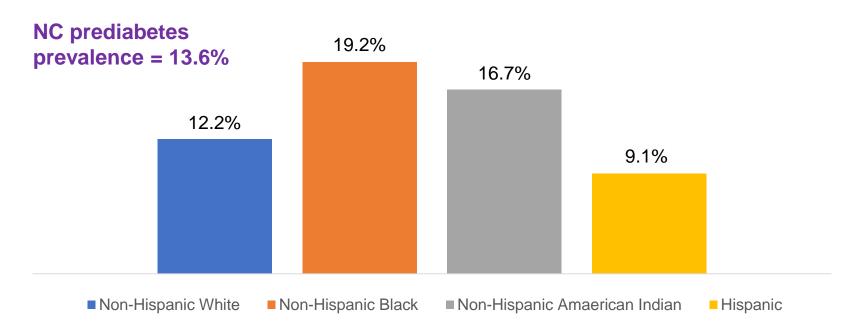


### Self-Reported Diabetes Prevalence by Area Health Education Centers (AHEC) Region, NC, 2019



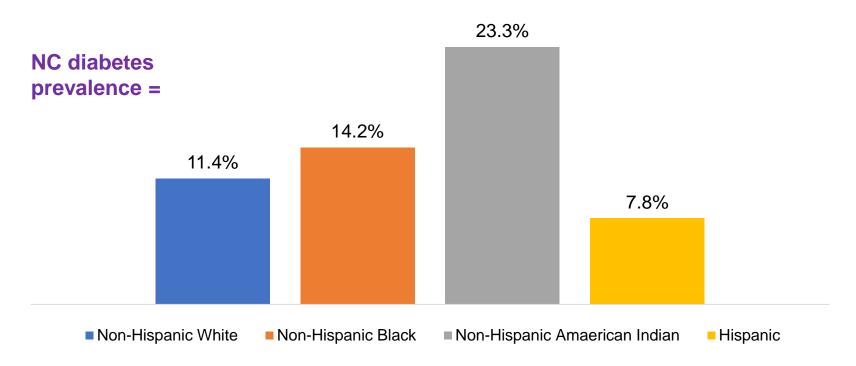


# Self-Reported Prediabetes Prevalence by Race/Ethnicity, NC, 2019



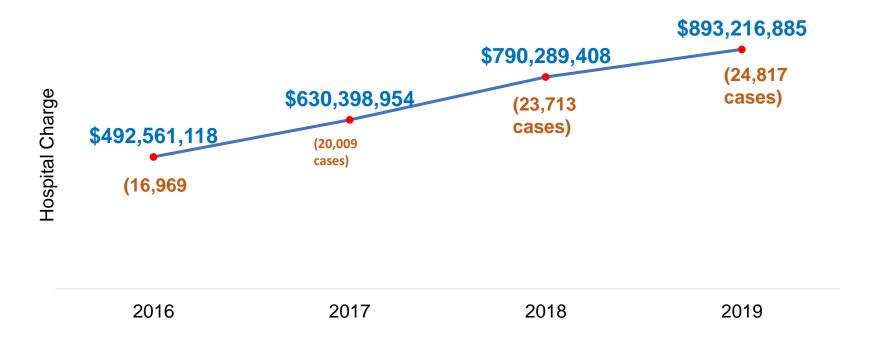


## Self-Reported Diabetes Prevalence by Race/Ethnicity, NC, 2019





# Inpatient Hospital Utilization and Charges for Diabetes as a Principal Diagnosis, NC, 2016 - 2019



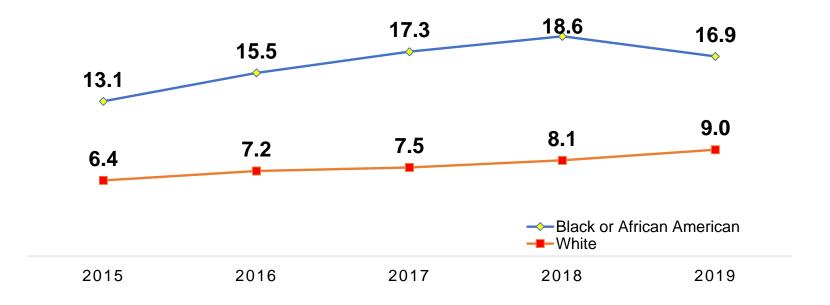
Diabetes: ICD-10 Codes E10-E11

North Carolina residents excluding newborns and discharges from out of state hospitals. **Source:** North Carolina Department of Health and Human Services, Division of Public Health,

State Center for Health Statistics. Data produced upon request.



## Diabetes Death Rates by Race, NC, 2015 - 2019



Diabetes: ICD-10 Codes E10-E11

**Source:** Rates per 100,000 population, age-adjusted to the 2000 U.S. standard population. Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. *Compressed Mortality File, 1999-2019.* CDC WONDER Online Database, released in 2020. Accessed at <a href="http://wonder.cdc.gov/ucd-icd10.html">http://wonder.cdc.gov/ucd-icd10.html</a> on February 18, 2021.



### To Reduce NC's Diabetes Disparity

- Alleviate the gap in health access/outcomes of care among different groups of people
- Address health equity inclusive of strategies that address social determinants of health
- Address "upstream" issues that contribute to health disparities and exist for our society and our most vulnerable populations



## **Opportunities to Reduce Burden**



**Communities** 



**Healthcare Providers** 



**Healthcare Insurers** 



**Employers** 



Advocates and Policymakers



## New in the 2020 Guide

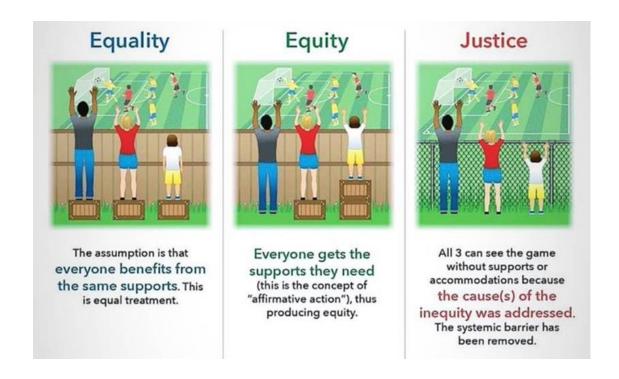
The Sociological Model of Health links the core behaviors that assist individuals in preventing and managing their diabetes to policy strategies that communities, employers, and health care providers can implement to support the same.



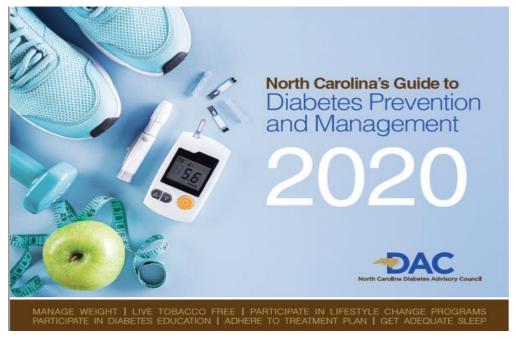


## New in the 2020 Guide

### Focus on achieving Health Equity







## Overview

NC's Guide to Diabetes Prevention and Management 2020



## **Definitions**

 Diabetes: A chronic condition in which the body either does not make any insulin or becomes resistant to insulin resulting in a relative deficiency of insulin.



#### **Prediabetes**

Prediabetes is a condition where people have higher than normal glucose (sugar) levels, but not yet high enough to be diagnosed as diabetes.

- Three main types:
  - Type 1
  - Type 2
  - Gestational





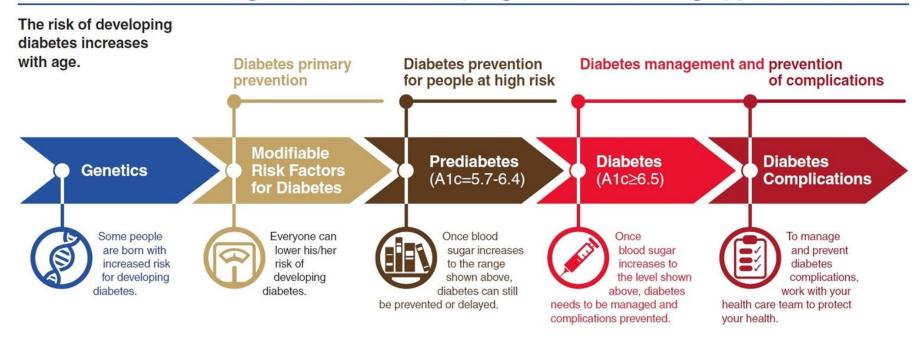


- Other terms defined in Guide:
  - Glucose
  - Insulin Resistance
  - Prevalence
  - Incidence



## Lifetime Risk

### Lifetime Risk Management for Developing and Controlling Type 2 Diabetes





## Diabetes Primary Prevention

Type 2 diabetes is the most common form of diabetes and can indeed be prevented if not delayed—sometimes for many years—by paying attention to the following healthy behaviors:

Maintain a healthy weight | Adopt healthy eating habits | Be more physically active | Live tobacco free | Get adequate sleep











## Focus on the key factors that are common among healthful eating patterns



- Balance with carbohydrates, Protein, and Fats
- Emphasize non starchy vegetables, fruits, whole grains and dairy products
- Low or Full Fat Diary Products are OK
- Minimize added sugars and refined grains
- Choose whole over overly processed foods
- Reducing overall carbohydrate levels
- Reduce trans fats, added sugars and sodium
- Practice portion control
- Alcohol in moderation if not contraindicated
- Avid sugar sweetened beverages (SSB)
- Engage in Fasting carefully, preferably with your doctor's guidance



## **Healthful Eating Patterns Include**

- Fruits, vegetables, whole grains and fat-free or low-fat dairy and dairy products
- Lean meat, poultry, fish, beans, eggs and nuts
- Moderate amounts of saturated fats, sodium and added sugars, and no trans fats
- Calorie needs to achieve and maintain a healthy weight





## Additional Resources for Healthful Eating



#### **Nutrition and Fitness**

- · MyFitnessPal (Apple/Android); free with in-app purchases
- · Weight Watchers (Apple/Android); paid program; virtual DPP
- . Fooducate (Apple/Android); free with in-app purchases
- Calorie Mama AI (Apple/Android); free with in-app purchases
- Calorieking (Apple and Android) free
- · Lose It! (Apple/Android); free with in-app purchases
- · Zombies, Run! (Apple); free with in-app purchases
- FitBit (Apple/Android); free with in-app purchases; requires wearable device

#### Management, Monitoring, and Education

- · Tidepool (Apple/Android); free
- MySugr (Apple/Android); free with in-app purchases
- One Drop (Apple/Android); free with in-app purchases
- Livongo (Apple/Android); through employers
- Omada Health (Apple/Android); Virtual DPP and DSMES
- WellDoc/BlueStar Diabetes (Apple/Android); Virtual

#### Stress Management

- Calm (Apple/Android); free with in-app purchases
- · Breathe2Relax (Apple/Android); free



#### RESOURCES FOR HEALTHY EATING

### Association of Diabetes Care and Education Specialists (ADCES)

- diabeteseducator.org/docs/default-source/ living-with-diabetes/tip-sheets/aade7/aade7\_ healthy\_eating.pdf?sfvrsn=16
- diabeteseducator.org/docs/default-source/ living-with-diabetes/tip-sheets/aade7/ aade7\_healthy\_eating\_sp\_rev.pdf?sfvrsn=6 (Spanish)

### American Diabetes Association (English and Spanish)

diabetes.org/nutrition

#### National Diabetes Education Program (English and Spanish and adapted for Chinese, African Americans, Southeastern and South Asian Americans, Filipino

Americans, and Korean Americans)

 cdc.gov/diabetes/ndep/toolkits/choosinghealthy-foods.html

#### Center for Disease Control — Nutrition for Diabetes and Healthy Weight

- cdc.gov/diabetes/managing/eat-well/mealplan-method.html
- · cdc.gov/healthyweight (English)
- cdc.gov/healthyweight/spanish

## Risk Factor Identification, Early Detection, and Screening



www.diabetes.org/risk-test



## **Prevention for People at High Risk**

- No known prevention for Type 1 diabetes
- Type 2/Gestational: Weight loss through healthful eating and moderate physical activity
- Lifestyle Change Program
  - www.DiabetesFreeNC.com (to find one near you)
  - Individual and group diabetes prevention education
- Medication Though none have FDA approval, a few diabetes medications may prevent progression from prediabetes to Type 2 diabetes through weight changes and action on beta-cell function



## **Diagnosing Diabetes**

Common Terms and Acronyms Used for Diagnosing Prediabetes and Diabetes<sup>75</sup>

#### A1C:

Hemoglobin A1C

#### BMI:

**Body Mass Index** 

#### FBG:

Fasting Blood Glucose

#### FPG:

Fasting Plasma Glucose

#### GDM:

Gestational Diabetes Mellitus

#### IFG:

Impaired Fasting Glucose

#### IGT:

Impaired Glucose Tolerance

#### OGTT:

Oral GlucoseTolerance Test

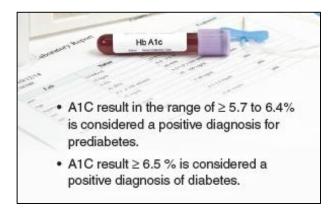
#### TIR:

Time in Range



Recommended Screening Guidelines

- Diagnosis Criteria
- Frequency of Testing

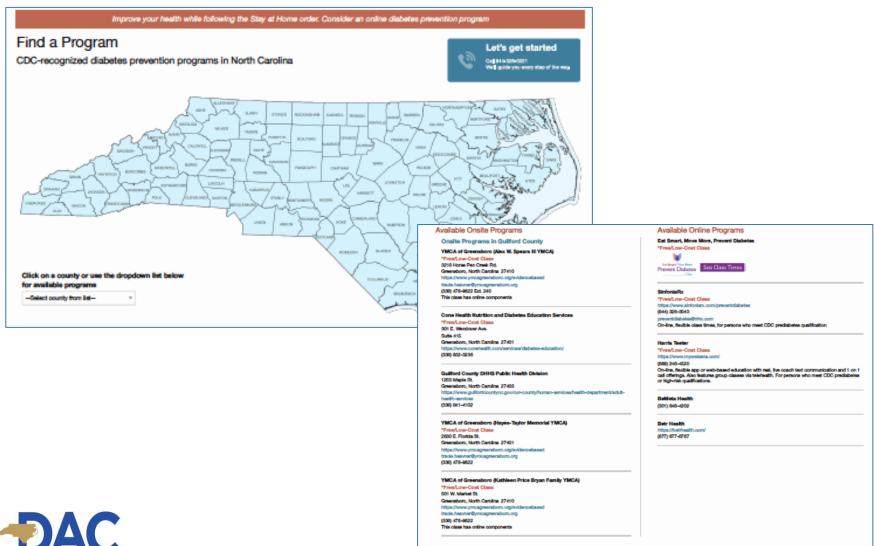


#### Frequency of Testing

- Those persons with an A1C ≥ 5.7%, or with prediabetes, IGT, or IFG should be tested yearly.
- Women who had Gestational diabetes mellitus (GDM) should be tested 4–6 weeks postpartum and then 1 to 3 years for the remainder of their lives.
- Otherwise, testing for diabetes should begin for all individuals beginning at age 45 years.
- If results are normal, those individuals should be tested every 3 years or more frequently based on risk, lab results, diabetes symptoms, and/or change in health status.

## **Diabetes Prevention Programs**

https://www.diabetesfreenc.com/find-a-program/



## Diabetes Management and Prevention of Complications

- Time In Range (TIR) to assess overall control
  - Target Range = 70-180 mg/dL for Type 1 & 2, 63-140 mg/dL during pregnancy
- Diabetes Self-Care Management Education and Support (DSMES) by credentialed professionals
- Follow up with your diabetes care team every 3 months
- Regular screenings
- Vaccinations





#### When to Refer for DSMES

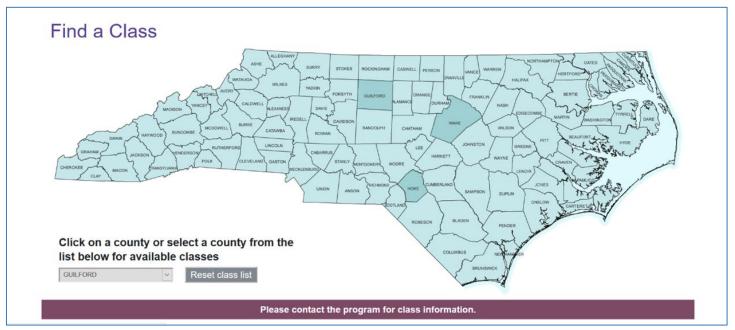
There are four critical times when DSMES should be provided for Type 2 diabetes (Figure 4):

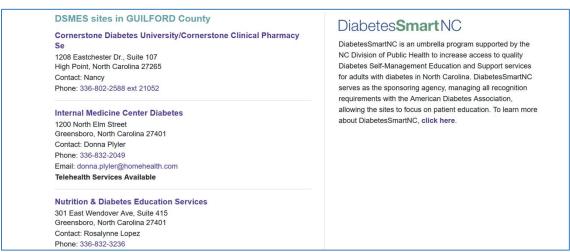
- At diagnosis
- Annually and when not meeting targets
- When complicating factors occur
- · When transitions in care occur



### **DSMES Classes**

### https://diabetesmanagementnc.com/find-a-class/







## Language Matters!

- Words and messages are powerful
- Be aware and choose yours with care:
  - Words to Avoid www.diabeteseducator.org/practice/practice-
  - Preferred Words <u>tools/app-resources/diabetes-language-paper</u>
  - Tone and Body Language are also important

#### Words to Avoid

- Judgment (non-compliant, uncontrolled, don't care, should, failure)
- Fear/Anxiety (complications, blindness, death, Diabetic Ketoacidosis)
- Labels/Assumptions (Diabetic, all persons with diabetes are fat, suffer)
- Oversimplifications/Directives (lose weight, you should, you'll get used to it, at least it's not...)
- Misunderstanding/Misinformation/Disconnected (cure, reverse, bad kind, you are fine)
- Body Language and Tone (no eye contact, accusatory tone)

BE AWARE AND CHOOSE YOUR WORDS WITH CARE



## Social Determinants of Health and Health Equity

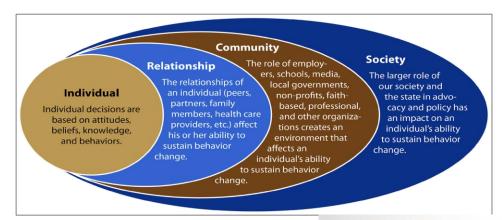
#### County Health Rankings Population Health Model 103 Length of Life (50%) Health Outcomes Quality of Life (50%) Tobacco Use Diet & Exercise **Health Behaviors** (30%)Alcohol & Drug Use Sexual Activity Access to Care Clinical Care (20%) Quality of Care Health Factors Education Employment Social & **Economic Factors** Income (40%)Family & Social Support Community Safety Physical Air & Water Quality Environment Policies & Programs (10%)Housing & Transit County Health Rankings model © 2014 UWPHI

Population-based strategies at multiple levels:

- Community
- Healthcare
- Employer
- Society
- Social and economic factors are believed to contribute to 40% of the quality and length of life in communities



# Social Determinants of Health and Health Equity



Multi-faceted approach to address SDOH and health equity









# What Can Local Communities Do?



- Schools, Community Colleges, and Universities
  - Develop programs and policies to support prevention behaviors
- The Media
  - Educate and draw attention to diabetes through PSAs, broadcasting, and print material without judgment
- Local and State Government
  - Implement programs and policies and encourage community action
- Faith-based Organizations
  - Trusted centers of communities; impactful in addressing health disparities and health equity
- Non-profit/Other Organizations
  - Support communities through outreach, advocacy, and access



# What Can Healthcare Providers Do?



- Community Pharmacists:
  - Create collaborative relationships with people with diabetes
- Community Healthcare Workers (CHW):
  - Work within communities in education and other support services in a team-based model
- Address challenges faced by healthcare providers:
  - Increase Medicaid reimbursement for services
  - Obtain continued education for new technologies and care access
- Reduce therapeutic inertia
  - Work across disciples in team or group care models to ensure best practices are met



# What Can Healthcare Insurers Do?



- Participate with government, employers, and advocacy group to broadly shape reimbursement policies
- Reimburse for diabetes covered services and education/programs
- Establish their own plan specific policy for covered services
- Improve reimbursement for telehealth services



# What Can Employers Do?



- Support healthful eating guidelines
- Support participation in regular physical activity
- Support participation in diabetes prevention or selfmanagement programs
- Promote adequate sleep
- Support tobacco-free policies and programs



# What Can Advocates & Policy Makers Do?



- Live Tobacco Free
  - Policies and programs for tobacco-free communities
- Improve Nutrition/Reduce Overweight and Obesity
  - Follow and promote NC's Plan to Address Overweight and Obesity which has similar strategies that could reduce diabetes impact
- Improve Health Coverage for All
  - Expansion of Medicaid to improve access to healthcare and improved health status



# Reducing the Burden of Diabetes Will Occur When...

- Persons at risk are able to change behaviors enough to prevent progress of prediabetes to diabetes
- Everyone uses person-centric, affirmative, enabling, nonjudgmental language when dealing with diabetes
- Everyone concerned about diabetes has access and affordability to treatment, education, medications, and technology
- Community stakeholders are engaged and take action to create environments that support diabetes prevention and care for those with diabetes





### Where to Go for More Information

#### **NC Division of Public Health:**

www.diabetesnc.com

www.diabetesfreenc.com

www.diabetesmanagementnc.com

www.quitlinenc.com/

www.startwithyourheart.com/

### **Association of Diabetes Care & Education Specialists**

www.diabeteseducator.org

**American Diabetes Association** 

www.diabetes.org

**CDC Diabetes** 

www.cdc.gov/diabetes

**CDC Diabetes Prevention Recognition Program** 

https://www.cdc.gov/diabetes/prevention/program-providers.htm

**CDC Diabetes Toolkit** 

www.cdc.gov/diabetes/dsmes-toolkit/index.html

**National Diabetes Prevention Program** 

www.cdc.gov/diabetes/prevention/index.html

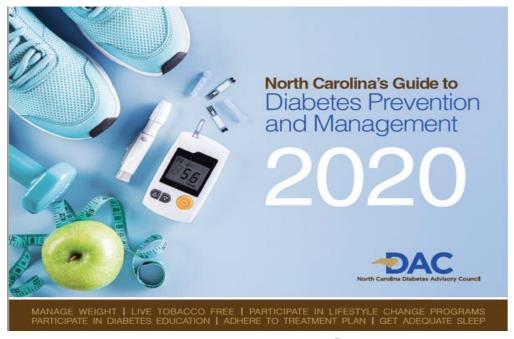


## Where to Go for More Information

- Diabetes Advocacy Alliance
- Diabetes at Work
- Diabetes Patient Advocacy Coalition
- Diabetes Sister
- Juvenile Diabetes Research Foundation
- National Diabetes Education Program
- National Institute of Diabetes and Digestive and Kidney Disease
- Partnership for Prescription Assistance
- Taking Control of Your Diabetes

See p. 49 of Guide for websites





## **How to Obtain**

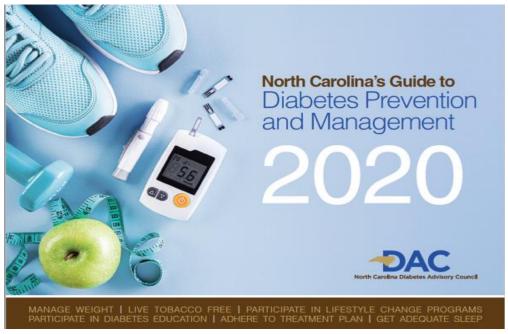
NC's Guide to Diabetes Prevention and Management 2020



### **Electronic and Printed Guides**

- Electronic versions (downloads)
  - Full English Version
    - https://www.diabetesnc.com/wpcontent/themes/dnc/assets/downloads/1120/DiabetesGuide2020 Sc reen.pdf
  - By Section
  - Full Spanish Version
  - https://www.diabetesnc.com/wpcontent/themes/dnc/assets/downloads/guide/NC Guide to Diabetes 20 20-Spanish.pdf
- Request printed copies
  - https://www.surveymonkey.com/r/3QTKZDT





## Dissemination

NC's Guide to Diabetes Prevention and Management 2020



## **Guide Dissemination**

- Presentations
  - By DAC leadership/members
    - Request a presentation
    - Request printed copies of the Guide (English and Spanish):
      - https://www.diabetesnc.com/diabetes-advisory-council/



### **Guide Dissemination**

NC DAC Social Media updates



### Facebook:

https://www.facebook.com/North-Carolina-Diabetes-Advisory-Council-128903157820117/



### Twitter:

https://twitter.com/DiabetesNc



#### LinkedIn

https://www.linkedin.com/in/north-carolina-diabetes-advisory-council-8b1ba3206/



## **Guide Development Process**

- Built on success of the 2015-2020 Guide
- Led by a writing team:
  - Jan Nicollerat, MSN, RN, ACNS-BC, CDCES (co-lead)
  - Joseph Konen, MD, MSPH (co-lead)
  - Carolyn Crump, PhD
  - Robert J. Letourneau, MPH
  - Ronny Bell, PhD, MS
  - Laura Edwards, RN, MPA
  - Chris Memering, MSN, RN, CDCES
  - Joanne Rinker, MS, RDN, CDCES
  - Kristie Hicks, MPH, CHES
- Supported by external reviewers (see p. 48 of Guide)



## **Questions and Thanks**

Post your questions in the question box.

Please complete the evaluation form as your feedback is important to us.

Thank you for your participation in the webinar, and thank you for all you do to decrease the burden of diabetes in North Carolina.

