

# North Carolina's Guide to Diabetes Prevention and Management 2020: Resources for Nurses to Take Action

**Disclosure Statement** — The following disclosure applies to the NCBON continuing nursing education article entitled “North Carolina’s Guide to Diabetes Prevention and Management 2020: Resources for Nurses to Take Action.” Participants must read the CE article, online reference documents (if applicable), and the Reflective Questions in order to earn CE contact hours. Verification of participation will be noted by online registration. Neither the author nor members of the planning committee have any conflicts of interest related to the content of this activity.

**Provider Statement** — The North Carolina Board of Nursing will offer .5 contact hours for this continuing nursing education activity.

The North Carolina Board of Nursing is approved as a provider of nursing continuing professional development by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.

**Learning Outcome:** Participants will gain increased knowledge of the burden and impact of diabetes in North Carolina, and how to access tools and resources within the NC Guide to Diabetes Prevention and Management 2020.

## EARN CE CREDIT

### INSTRUCTIONS

Read the article, online reference documents, and the Reflective Questions (if applicable).

### EARN CONTACT HOUR CERTIFICATE

Go to [www.ncbon.com](http://www.ncbon.com) and scroll over “Education”; under “Continuing Education,” select “Board Sponsored Bulletin Offerings,” scroll down to link, “North Carolina’s Guide to Diabetes Prevention and Management 2020: Resources for Nurses to Take Action.” Register. Be sure to write down your confirmation number, complete and submit the evaluation, and print your certificate immediately.

If you experience issues with printing your CE certificate, please email [paulette@ncbon.com](mailto:paulette@ncbon.com). In the email, provide your full name and the title of the CE offering (North Carolina’s Guide to Diabetes Prevention and Management 2020: Resources for Nurses to Take Action).

Registration deadline is July 1, 2024.

Many nurses work daily with people with chronic disease. In North Carolina, one of the most common chronic diseases is diabetes. In 2020, almost one half of North Carolinians have diabetes or are at risk for developing diabetes (CDC, 2020). The rate of diabetes in NC is 11.3%, which is a 33% increase over the last 10 years (ADA, 2020). Over a third (34.5%) of North Carolinians have prediabetes and of those, 80% are not aware they have the condition (ADA, 2020). It is projected that over 3,000 people will die directly or indirectly annually because of diabetes and its complications, ranking NC as seventh in the nation for diabetes related deaths (NCHS: CDC, 2020).

This burden of chronic disease adds to the overall burden of annual health care costs in the state. The annual healthcare costs of diabetes in NC are estimated to surpass \$17 billion by 2025 (Konen & Page, 2011). These include direct and indirect costs; 72% of national diabetes costs are attributed to direct healthcare costs, while 28% of costs are attributed to indirect healthcare costs (work-related absenteeism, unemployment, and premature death) (ADA, 2020). Of the \$11 billion of direct and indirect care costs in NC, \$7.79 billion was direct healthcare cost and \$2.90 billion was indirect cost (NCDHHS, 2020). Diabetes

is associated with an elevated hospital admission rate of 1.9 per 1000 with an average length of stay of 4.7 days (Powers et al., 2020). In 2018, the average cost per hospitalized person with diabetes was \$33,000 (Powers et al., 2020).

As a nurse in North Carolina, there are many areas that we can influence within our practices and communities for the health of all. The North Carolina Diabetes Advisory Council ([NC DAC](#)), which is an advisory group to the NC Division of Public Health, works to reduce the burden of diabetes through coordination among the many stakeholders in diabetes prevention and control in North Carolina. The NC DAC was created in 1984 and connects health professionals, providers, community and business leaders, persons with diabetes, advocacy groups, coalitions, stakeholders, and partners who are all committed to reducing the burden of diabetes in North Carolina (Diabetes NC, 2021).

The DAC's core responsibilities (Diabetes NC, 2021) are to:

- Educate and publicly validate early detection, treatment, and self-management training for diabetes prevention and control, as a health priority for all North Carolinians.
- Provide scientific credibility and public validity for new service priority areas and interventions based on evolving clinical and epidemiological studies and technology.
- Foster interagency collaboration and networking for identification, utilization, and expansion of resources for diabetes control services.
- Evaluate, present, and propose strategies for the prevention and control of diabetes in North Carolina in terms of assessed need, estimated costs, potential benefits, and probability of success of each strategy.

With this charge, the DAC creates a strategic plan every few years. In recent years, this strategic plan has turned into the North Carolina Guide for Diabetes Prevention and Management. The latest of these [guides](#) was updated and launched in 2020. The focus of the guide is to reduce NC's diabetes burden. To that end, the focus must be to 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, and address "upstream" issues that contribute to health disparities and exist for our society and our most vulnerable populations. Examples of 'upstream' factors include housing stability, neighborhood conditions, education, food access, and income and financial security.



Figure 1: Socio-Ecological Model of Health in the North Carolina's Guide to Diabetes Prevention and Management 2020  
[Click image to enlarge]

The NC Guide to Diabetes Prevention and Management offers a working guide for communities, healthcare providers and insurers, employers, and advocates and policymakers. Within the guide, there are strategies for primary, secondary, and tertiary prevention in diabetes care for each of these groups (Institute for Work & Health, 2015). Primary prevention includes strategies for diabetes prevention, including coordinated referrals with local Diabetes Prevention Programs (DPP). Secondary prevention refers to once diagnosis has occurred (Type 1, Type 2, or gestational) for the prevention of complications (ADA, 2021). For an employer, this might include creating a disease specific wellness program for those with diabetes that provides education or resources. For the healthcare team, this includes referral and access to diabetes self-management education and support (DSMES) services (Powers et al., 2020). This may include collaborative practice agreements with a local DSMES service provider, if there is not one located within your practice. Tertiary prevention includes management of complications of diabetes. Nurses play a large role in all stages of prevention.

As a reminder, there are three primary types of diabetes: Type 1, caused by an autoimmune destruction of  $\beta$ -cells in the pancreas that produce insulin; Type 2, starting with insulin resistance progressing to a loss of insulin secretion by  $\beta$ -cells; and gestational, diagnosed during the 2nd or 3rd trimester without underlying diabetes prior to pregnancy (ADA, 2021). Other forms of diabetes are related to other conditions, genetic changes, or drug and chemical induced diabetes. Nursing needs to be somewhat familiar with all types of diabetes, but especially Type 1 (5-10% of the population) and Type 2 (90-95% of the population) and to understand the differences therein (ADA, 2021). One thing to remember is that with advances in medical treatments and technology, people with Type 1 diabetes are living much longer (Banion & Valentine, 2021). And with the changes to access and social determinants of health, as well as environmental impacts, there are more youth being diagnosed with Type 2 diabetes (Vivian, 2021).

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

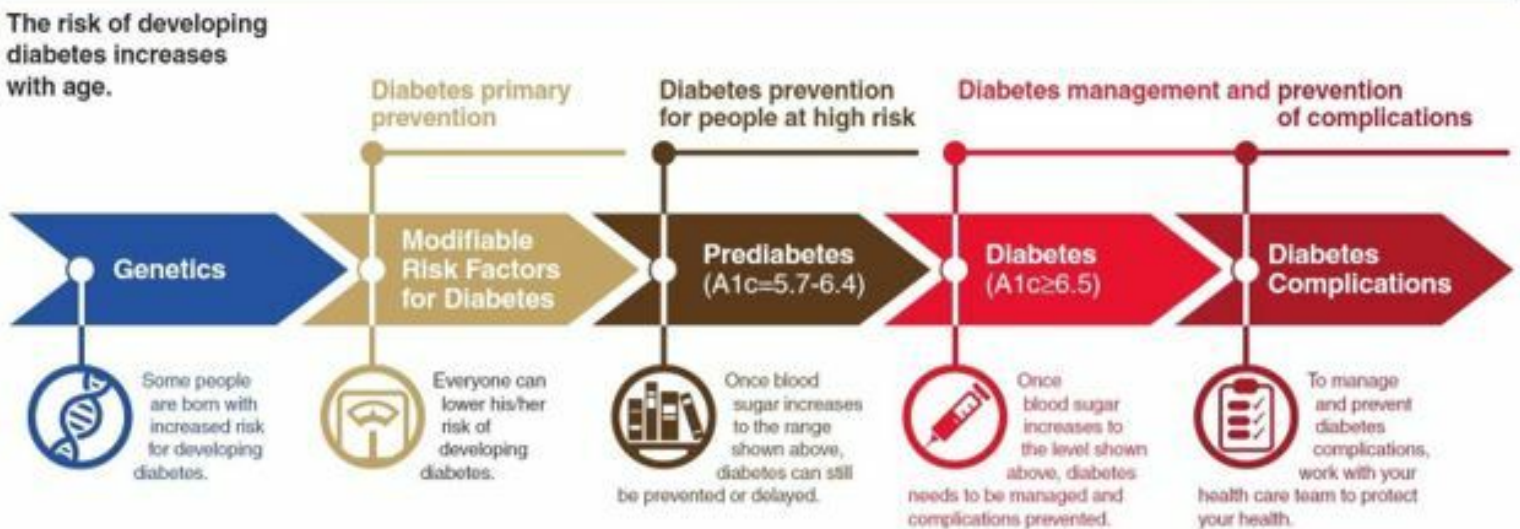


Figure 2: from the North Carolina's Guide for Diabetes Prevention and Management 2020  
[click image to enlarge]

The NC Guide to Diabetes Prevention and Management offers a refresher on prevention strategies along the continuum of diabetes care that all healthcare providers can utilize. This includes recommendations on lifestyle modifications including healthful eating habits, incorporation of more physical activity, adequate sleep, maintaining a healthy weight, and living tobacco free. Resources, including mobile apps and professional organizations, are also included in the guide as one area for nursing and others in healthcare to help reduce the burden of living with a chronic disease. The adoption and utilization of diabetes technology for all those affected by diabetes to better understand their disease may also be of



benefit. As such, nursing would benefit from understanding information from these devices, beyond our standard lab values of an A1c. Diabetes prevention and management is a joint responsibility between an individual and their healthcare team. There are many other healthcare providers who are important in diabetes care including all nurses (LPN, RN, APRN, DNP), physicians, podiatrists, ophthalmologists/optometrists, dentists, registered dietitians, behavioral health/mental healthcare providers, community pharmacists, community healthcare workers, and diabetes care and education specialists. All play a role in care and optimizing the health of individuals with diabetes.

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