North Carolina's Guide to Diabetes Prevention and Management

2020

What Can Healthcare Providers and Insurers Do?

DAC
North Carolina Diabetes Advisory Council

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North Carolina's Guide to Diabetes Prevention and Management 2020

Introduction

In 2020, nearly one-half of North Carolinians have diabetes (12.5% of the population[1]) or are at high risk for developing diabetes (34.5% of adults have prediabetes[2]). It is also projected that over 3,000 people will die directly or indirectly because of diabetes and its complications, ranking North Carolina as 7th in the nation for diabetes related deaths.[3]

Diabetes is a complex disease and daily self-management can be challenging. Uncontrolled diabetes is associated with serious complications (e.g., heart disease, hypertension, stroke, vision loss, kidney failure, nerve damage, depression, and hearing loss), which negatively impact quality of life for persons with diabetes. In addition to the substantial personal burden of diabetes to those who have it, and the families who also are touched by caregiving, there are substantial financial burdens to individuals, employers, health systems, and communities across the state including multiple levels of government. The annual healthcare cost of diabetes in North Carolina is estimated to surpass $17 billion by 2025.[4]

In addressing diabetes as a complex disease and the challenges of reducing its burdens, NC must consider personal and environmental factors at individual, relationship, community, and societal levels. Our behaviors as individuals shape and are shaped by our social, economic, and policy environment. Together these terms are often grouped and referred to as the Social Determinants of Health (SDoH). In addition to caring for those who already have diabetes, preventing diabetes and related complications, if not delaying onset of the disease, is important at the individual, community, and systems level.

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This Guide is organized around four levels of social and environmental concepts described by the Centers for Disease Control and Prevention (CDC) and the Socio-Ecological Model of Health (SEM) (Figure 1).

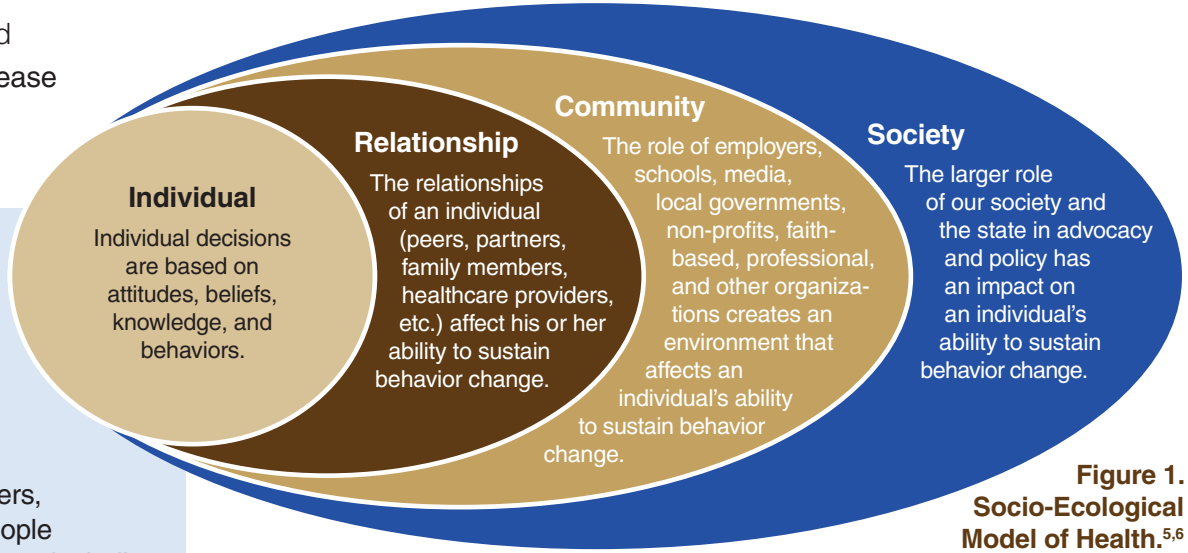


Figure 1. Socio-Ecological Model of Health.[5,6]

The Guide:

1. Addresses what diabetes is and what diabetes looks like in North Carolina.
2. Focuses on actions that individuals at risk for diabetes or who have diabetes, families, and peers can implement to improve the health of North Carolinians.
3. Provides specific strategies for community groups, employers, and healthcare providers to implement toward assisting people to manage their risk for developing and/or managing diabetes, including reducing risk of complications.
4. Shares opportunities to focus on what we can do in our various communities to reduce the burden of diabetes, and the evolving role for our broader society including policy and advocacy in North Carolina.

Statistics Used in this Guide: Throughout this Guide, we have made every effort to cite the most recent statistics available at the time of going to press.

The Guide's mission is to reduce the burden of diabetes in North Carolina. The North Carolina Diabetes Advisory Council (NC DAC) hopes that the information presented in the Guide will increase understanding of the impact of diabetes in North Carolina for our audience (or readers), and what we as individuals, families, and our communities across the state can do to reduce these burdens.

This Guide is also a **Call to Action** to prevent and manage diabetes. After reading it, we hope you will join the NC DAC in our mission to make a difference.

Modeling the Language of Diabetes

Words matter in diabetes care and management. Persons diagnosed with prediabetes or diabetes communicate and engage with their healthcare team, families, friends, employers, communities, etc., in order to successfully manage their diabetes. Language is the tool that makes effective communication possible and supports the person with diabetes on this journey. All language should be person centric. Words that promote inclusion, respect, positivity, and acceptance without judgment fosters collaboration between persons with or at risk for diabetes and their healthcare team.

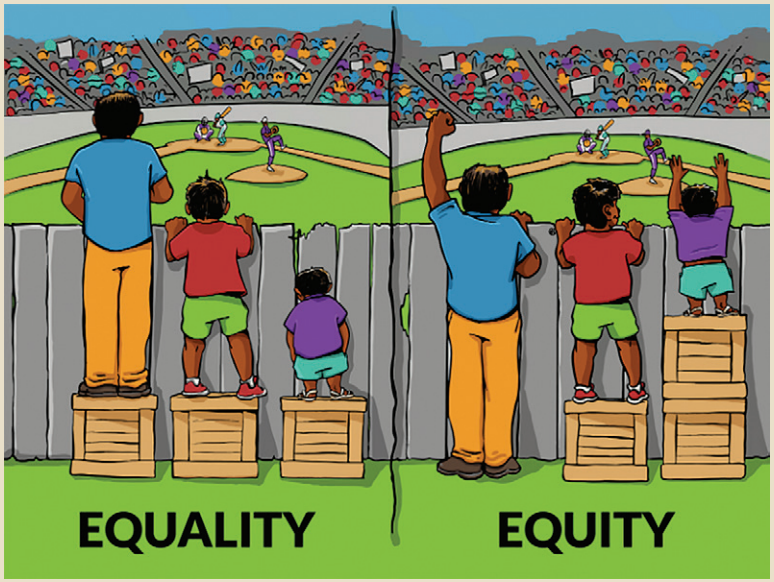
Throughout this guide we will model language that enhances written and spoken communication when discussing diabetes. We have added the research recommendations from the joint task force of the American Diabetes Association (ADA) and the Association of Diabetes Care and Education Specialists (ADCES) that addresses language best practices in the delivery of diabetes care and diabetes self-care management education and support (DSMES).[7]

Importance of Social Determinants of Health and Health Equity to Prevent and Manage Diabetes

Traditionally, public health and healthcare agencies have focused on understanding and addressing **health disparities**, that is, alleviating the gap in health outcomes and/or processes of care between different groups of people.[99] With racial/ethnic health disparities, health disparities have been defined as the difference in both outcomes and healthcare processes of care between non-Hispanic Whites and racial and ethnic minority groups. For diabetes, racial and ethnic health disparities have been pronounced and persistent, particularly for African Americans, American Indians and Hispanics/Latinx.[11]

Recently, the focus has shifted to **health equity**, defined as the achievement of the highest level of health for all people.[100] Health equity requires that efforts are made to address factors such as racism and power imbalances and to focus attention on "upstream" issues that contribute to the long-standing health disparities that exist in our society. Health equity also requires that extra efforts must be made to achieve this goal among our most vulnerable populations (Figure 5).

Figure 5. Equity and Equality

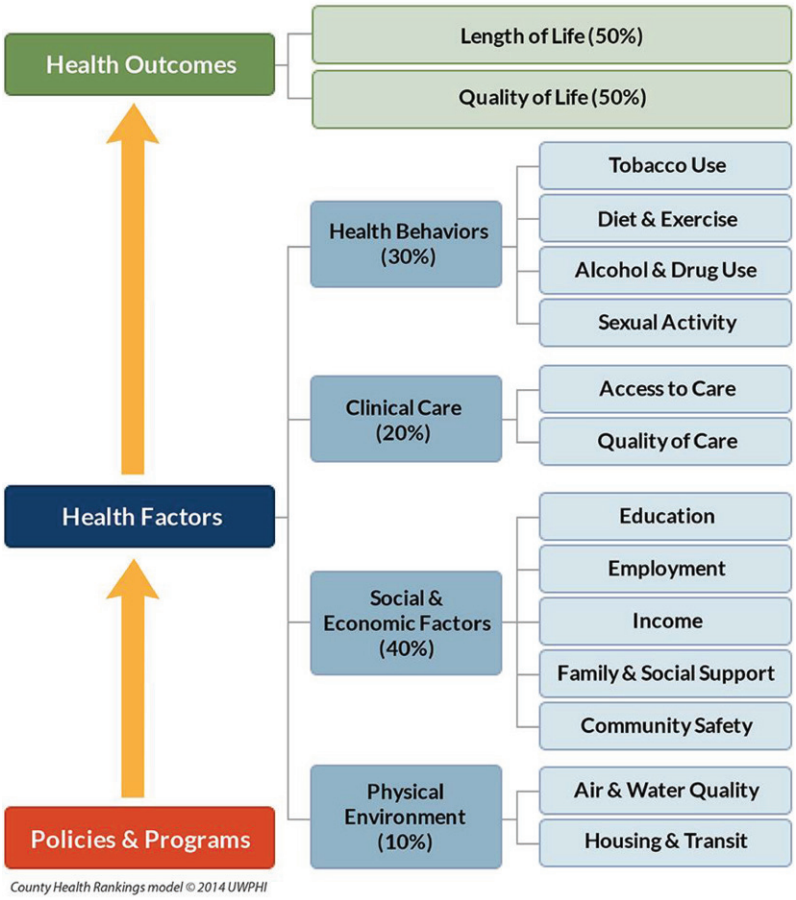


Interaction Institute for Social Change | Artist: Angus Maguire.

To that end, greater emphasis is being placed on these "upstream" issues, known as the social determinants of health (SDOH), which are conditions in which people live, learn, work, and play and how those conditions affect health risks and outcomes. Social and economic factors are believed to contribute to 40% of the quality and length of life in communities[101] (Figure 6). The 2018 Health Equity Report released by the North Carolina Office of Minority Health and Health Disparities[29] and the recently released Healthy North Carolina 2030 Report[102] focused on the drivers of health as outlined in the County Health Rankings Model (Figure 6).

There is strong evidence that diabetes prevention and management is influenced by the social determinants of health.[104] Disparities in diabetes indicators are very prominent across educational, economic and geographic groups, with the greatest burden experienced by those with limited formal education, those living below the poverty line and those living in rural communities with limited access to healthcare and resources to live healthy lives. In order to be as effective as possible in achieving our goals to reduce the burden of diabetes in our state, it is incumbent upon us to both recognize the impact of social determinants on diabetes prevention and management, but to also work collectively to ensure that health equity can be achieved through a concerted focus on the upstream factors.

Figure 6.
County Health Rankings Population Health Model[103]



Working to Address Social Determinants of Health and Health Equity at Multiple Levels

There are many things that community organizations can do to help support persons with diabetes and to assist in reducing the burden of diabetes in our state. Examples of what you and the organizations you belong to can do appear in the following sections.

We use the Socioecological Model of Health (Figure 7) to serve as a bridge between the core behaviors that help individuals prevent and manage their diabetes to the policy strategies that community groups, employers and healthcare providers can implement to support diabetes prevention and management.

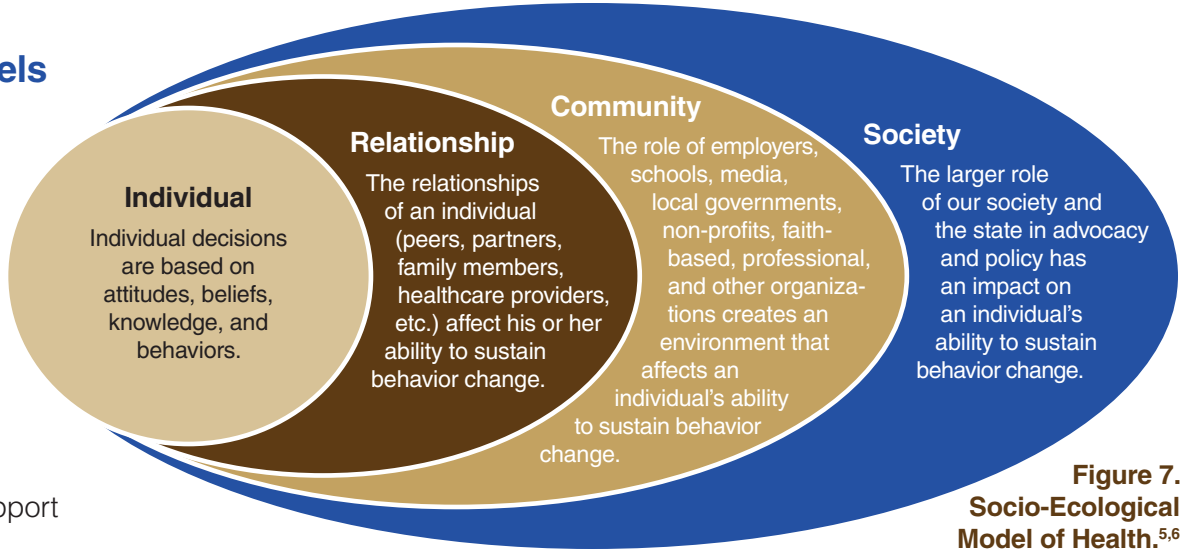


Figure 7. Socio-Ecological Model of Health.[5,6]

Based on the socioecological model (SEM), the individual who is at risk for or who has diabetes will need to follow the behaviors previously described to protect their individual health. The interpersonal relationships that they have with their families and friends influence their behaviors. This prevention and management Guide does not address actions for friends and families because a variety of websites exist that support people with and at risk for diabetes (e.g., Diabetes Sisters, Children with Diabetes, Taking Control of your Diabetes). A list of these websites is included as Appendix A.

The population-based strategies that follow are those that organizations can implement to support individuals in the prevention of diabetes and its complications. The list of activities builds on primary prevention activities. The list is organized by the group that can initiate the action (community, healthcare, employer, society) and is shown according to the stages of diabetes prevention and management. A description of each group is provided prior to the list of strategies.

Taken as a whole these and other strategies help the state, community groups and other agencies use the principles of population health and risk stratification to complement what healthcare providers do in assisting individuals with or at risk for diabetes—thereby helping to reduce the burden of diabetes far beyond an individual or family.

Individual

Individual decisions are based on attitudes, beliefs, knowledge and behaviors.

Relationship

The relationships of an individual (peers, partners, family members, healthcare providers) affect their ability to sustain behavior.

Community

The role of employers, schools, media, local governments, non-profits, faith-based, professional and other associations creates an environment that supports an individual's ability to sustain behavior change.

Society

The larger role of our society and the state in advocacy and policy has an impact on an individual's ability to sustain behavior change.

Taken together, the socioecological model, social determinants of health and health equity provide cues towards what organizations can do towards addressing diabetes. Working together always accomplishes more long-lasting change than individual efforts. The following sections of the Guide address what "Community" and "Society" might accomplish. We all should consider these statements that focus on solutions rather than problems[105] as we figure out how to collaborate.

1. **Health starts long before illness, in our homes, schools and jobs.**
2. **All people should have the opportunity to make the choices that allow them to live a long, healthy life, regardless of their income, education or ethnic background.**
3. **Your neighborhood or job should not be hazardous to your health.**
4. **Your opportunity for health starts long before you need medical care.**
5. **Health begins where we live, learn, work and play.**
6. **The opportunity for health begins in our families, neighborhoods, schools, and jobs.**

What Can Healthcare Providers and Insurers Do?

Diabetes prevention and management is a joint responsibility between a person with or at risk for diabetes and their healthcare team. While the person manages their health, the person must have a healthcare team that is familiar with current screening and management guidelines.

Types of Healthcare Providers

Healthcare providers include those with general and specialized expertise in diabetes and its complications such as physicians, physician assistants, advanced practice nurses, pharmacists, podiatrists, ophthalmologists/optometrists, dentists, audiologists, registered dietitian nutritionists, nurses, diabetes care and education specialists, pharmacists, behavioral health/mental healthcare providers, and others. The healthcare provider counsels those at risk for diabetes on strategies to prevent or delay the onset of diabetes and its complications, makes the diagnosis of diabetes, and works with these individuals in managing their diabetes through lifestyle and behavioral changes, medication, and/or other therapies. *In addition, the healthcare provider is the only one who can refer someone with diabetes to recognized Diabetes Self-Management Education and Support (DSMES) services*. The term healthcare provider is commonly associated with physicians, physician assistants, and advanced practice nurses. However, there are many other healthcare providers (in addition to the ones listed above) who are important in diabetes care such as case managers, care coordinators, physical and occupational therapist, trainers and exercise physiologists. Community pharmacists and community health care workers have also developed unique roles in working with persons who have diabetes.

Community Pharmacists have a unique role in the care of people with diabetes. They are seen more often than most healthcare providers, with more accessibility and a collaborative relationship with people with diabetes. Community pharmacists greatly assist in medication therapy management and provide important safety checks with medications from multiple providers, a wellness coach on over the counter therapies, and a resource on various therapies available and affordable to people with diabetes. More community pharmacists are incorporating DSMES services into their practice as well. The inclusion of pharmacists within DSMES services and program development has led to increases in medication persistence by participants.[114, 115]

Community Healthcare Workers (CHWs) are usually lay healthcare workers who can assist persons with diabetes, and their families as well as the community in general through education and other support services. CHWs typically work within their own communities, sharing linguistic, cultural, economic and social characteristics with those they serve. They tend to be trusted and respected which facilitates strong relationships within the community. CHWs also serve as bridges linking their community to healthcare systems and provide support, education and resources related to health crisis, preventions, maintenance or transitions of care. They serve as key links towards improving overall health of underserved communities, reducing health disparities, and improving health equity.[116] A systematic review showed individuals who received interventions from CHWs improved their glycemic and lipid management and reduced their healthcare use.[117] Additionally, the available economic evidence suggests the interventions of CHWs are cost-effective.[118] Team-based strategies included adopting CHWs as members of the diabetes care team because they are realizing this could be an effective strategy to help people manage their diabetes. In 2017, the Community Preventive Services Task Force (CPSTF) initiated interventions that engaged community health workers to help patients manage their diabetes. These interventions were shown to improve patients' glucose and lipid management as well as reduce their healthcare use. Their interventions included education, support, coaching to improve glucose monitoring, taking medications as directed, healthy nutrition, physical activity, or weight management.

The NC Community Health Worker Initiative provides additional information. If your community does not have a CHW, the Centers for Chronic Disease Control and Prevention has developed a CHW Toolkit.

Challenges Faced by Healthcare Providers

North Carolina has made great strides in working to increase the availability of healthcare providers of all types across its diverse geography and communities. Nationally recognized programs such as Area Health Education Centers (AHEC), the state public health department and federally qualified health centers, strong commitment by the state's excellent institutions towards professional health education programs (medical, nursing, allied health), and leadership focused on developing physician assistants and advanced practice nurses, have all contributed to increasing high quality health care across diverse communities.

While having adequate numbers and distribution of healthcare providers has improved, there remain underserved communities and disparities described elsewhere in this Guide (see the section on Social Determinants of Health and Health Equity, p. 26). In addition, healthcare providers face other challenges such as adequate reimbursement for services and continuing education related to the adoption of new technologies, including telehealth. Also, with the ever-rapid increase in clinical developments, there is a need for quicker adaption of new therapeutic advances of proven value.

Therapeutic Inertia: Despite the availability of new technologies and therapies, about half of all people with diabetes in the United States continue to have blood sugar values above goal.[119] In addition to supporting the care and management of each individual, the healthcare provider needs to stay informed as new therapeutic options become available, and as new information becomes available as to what may be more effective than previously thought. Clinical or therapeutic inertia, defined as the delay or lack of setting appropriate targets and progressing treatment to achieve the desired goal(s), is one of the largest barriers for healthcare providers and those they serve to adopt the latest advances in managing diabetes including monitoring, medications, and medication delivery.

One option to address therapeutic inertia may be working across disciplines or in team and group care models. Collaboration models, such as Together 2 Goal, allow healthcare providers to ensure best practices are being met.[120]

Table 5: Understanding and Overcoming Therapeutic Inertia[121]

Did you know?	How healthcare providers and insurers can overcome therapeutic inertia:
In the last 20 years despite more technology, more education and more drug therapies the average A1C for a person with diabetes has not changed. The number of people with an A1C over 9% has actually increased.	Refer your first patient (or additional) people with prediabetes a to DPP program.
Treatment intensification is significantly behind recommendations.	Stay up to date on emerging effective strategies—read and attend professional continuous education opportunities.
Only 5% of people recently diagnosed with diabetes on Medicare are using DSMES services.	Consider being an early adopter for new therapies that interest you or those you treat and gain experience sooner than later to share with your those you treat.
There is a significant gap in what people say they are willing to do and what physicians believe people are willing to do to reduce A1C.	Get involved in community, professional and other organizations whose mission is to reduce the burden of diabetes.
Within one year of a diagnosis of diabetes, less than 50% of people are still taking the prescribed medication.	Partner with a Diabetes Care and Education Specialist to help bring emerging and effective therapies and technology into your practice or to those you treat.

Healthcare Insurers ("Payers") also have multiple roles to play including:

For their insured members:

- Reimbursing persons with diabetes or their healthcare providers for covered services such as direct primary and specialty care, medications, equipment, and Diabetes Prevention Programs
- Establishing their own plan specific policy for what are and are not covered services

Participation with government, employers and advocacy groups:

- More broadly shaping reimbursement policy for what are covered services across North Carolina

Over the last decade in general in North Carolina the insured have experienced broader coverage for services, insulin and other medications, glucometer and testing supplies, vaccines, and participation in diabetes prevention programs especially for those at high risk. However, such coverage is still not universal.

Recently several reimbursement issues driving policy deliberations in the state for broader coverage include:

- Universal reimbursement of Diabetes Prevention Programs
- Managed Medicaid
- Telehealth technology reimbursement
- Group medical or clinical visits
- Better reimbursement and coverage for DSMES and diabetes supplies, hearing aids, orthotics, reimbursement for pharmacists for DSMES

Need for better reimbursement for telehealth services not only in rural areas with reduced healthcare access has been particularly emphasized across the state—urban, suburban and rural—due to the COVID-19 pandemic. Telehealth can provide a wide range of clinical and educational services including indirect care and diabetes prevention.

Additional ways healthcare insurers and providers can work together around policy change are included in Table 6.

Table 6: Activities for Healthcare Providers and Insurers

Diabetes Primary Prevention

To help manage weight and/or participate in regular physical activity

1. Advocate for walkable communities.
2. Refer people to evidence-based weight loss programs including those offered through diabetes prevention programs, or North Carolina's **Eat Smart, Move More, Weigh Less** or a registered dietitian nutritionist for weight management.
3. Engage barbers and hair stylists as community ambassadors of diabetes prevention and management, supported by community grants, partnerships with insurers and healthcare system, community health workers.[122]

To help live tobacco free

1. Refer people to the **Quitline**.
2. Support programs like **Escape the Vape** to help educate on the dangers of vaping.

To promote adequate sleep

1. Ask people about the quantity and quality of their sleep and advise accordingly (i.e. sleep studies to diagnose sleep apnea).

Diabetes Prevention for People at High Risk

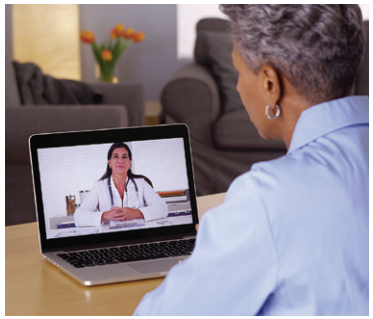
To help participation in diabetes prevention programs

1. Refer people to diabetes prevention programs and build the referral into the electronic health record (may require A1C level with definite glucose metrics required).
2. Train community resource providers of diabetes prevention programs on how to provide feedback on program participation to healthcare providers.

Diabetes Management and Prevention of Complications

To help participation in individual and/ or group Diabetes Self-Management Education and Support (DSMES) services

1. Establish a professional relationship with hospital transition coordinators to ensure knowledge of local DSMES Services and develop integration of these services into discharge paperwork.
2. Partner with a sponsoring agency to become an expansion site to deliver DSMES services, either in person or via telemedicine.
3. Refer people with diabetes to recognized DSMES services and build the referrals into the electronic health record.
4. Consider the incorporation of a Diabetes Care and Education Specialist in the primary care office without the addition of a copay or separate visit for the person with diabetes.
5. Partner with local DSMES service providers, such as local pharmacies, podiatrists, ophthalmologists/optometrists, dentists, and audiologists.[123]
6. Ensure that DPP and DSMES are covered benefits for all and waive co-pays/ out of pocket deductibles.
7. Partner with CHWs in the communities to provide support, ongoing education, resources, and a link between providers and persons with prediabetes or diabetes.



To help with monitoring diabetes treatment for individual and population health

1. Develop standing orders for screening for diabetes.
2. Follow the United States Preventive Services Task Force screening recommendations and build it into the practice electronic health record.
3. Use plain language in communication with people with diabetes about diagnosis and plan of care. Consider health literacy and numeracy needs.
4. Follow clinical guidelines for diabetes care.
5. Encourage clinical decision support systems.
6. Work with Area Health Education Centers to improve continuing education about diabetes care.
7. Work with pharmacists to ensure that patients are taking the least expensive drugs that are appropriate for their condition, as well as simplification of medication plans to help reduce medication (pill) burden.
8. Follow clinical guidelines for post-partum screening of women who have had gestational diabetes.
9. Consider participating in the American Medical Group Association's Together 2 Goal program to ensure best practices.
10. Incorporate the use of technology in individualized treatment plans, including remote monitoring and real-time or flash continuous glucose monitoring.
11. Support the use of reimbursement of Telehealth for virtual clinical care and education.

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North Carolina Diabetes Advisory Council

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