

# Type 2 Diabetes



A Series by:

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Over 36 million people in the U.S. have type 2 diabetes, and many of them face significant obstacles in accessing the care they need.

***Type 2 Diabetes*** is a recently published series of articles that empowers patients and their caregivers with information about the risks associated with the disease and the organizations dedicated to helping them.

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## Why People with Type 2 Diabetes Need to be Smart about Their Heart

Diabetes is among the strongest risk factors for heart and vascular disease – up there with smoking and having high blood pressure or high cholesterol. Cardiovascular disease is the top cause of death among people with type 2 diabetes. Compared with those who do not have diabetes, women with the condition have about four times greater risk for heart disease, while men with the condition have about twice the risk.

“People with diabetes often have other risk factors, like high cholesterol, being overweight, not exercising, and smoking, which collectively can increase the risk for heart disease,” says Rachel Bond, MD, FACC, member of the [American College of Cardiology \(ACC\)](#) and the ACC’s CardioSmart editorial board. “The high blood glucose levels associated with diabetes cause damage, in the form of inflammation, to the inner linings of the blood vessels. That inflammation leads to heart disease and other forms of cardiovascular disease that affect all vessels in the body, including those in the brain, arms, and legs, a condition known as peripheral arterial disease.”

### Control Your Glucose Levels to Protect Your Heart

Dr. Bond says that people with type 2 diabetes can do several things to reduce their risk for cardiovascular disease, including lifestyle modification. Most important, she says, is to make sure that blood glucose levels are under strict control by adopting a heart-healthy diet low in carbohydrates and saturated fat and high in whole grains. Plant-based and Mediterranean diet plans are an excellent way to achieve those dietary goals. She also recommends maintaining 150 minutes per week of moderate physical activity.

“Research data suggests that patients with a history of diabetes, especially if they are over 40, should also be on lipid-lowering medications called statins for primary prevention of heart disease,” Dr. Bond says. “These drugs, which help to lower cholesterol, also mitigate the inflammatory process caused by high blood glucose levels.”

According to guidance from the ACC and the American Heart Association, the longer someone has diabetes, the higher their risk for a cardiovascular event. This means that doctors may need to be even more aggressive in treatments designed to lower cholesterol and blood pressure.

The same guidance recommends the use of additional steps – beyond traditional blood work – to better stratify a diabetic patient’s risk of developing heart disease. Today, those steps include the use of imaging to detect the amount of plaque buildup in the vessels. Those imaging tests provide a coronary artery calcium score, which can be used to guide recommendations for lipid-lowering medications.



*Dr. Rachel Bond*

## CardioSmart Resources Aid in Shared Decision-Making

Understanding the heart disease risks associated with type 2 diabetes is the first step people can take to better care for their health, according to Dr. Bond. The infographic below, one of many resources available through the ACC's [CardioSmart](#) program, does a good job of illustrating the connection between the two conditions

**DIABETES**

**CardioSmart**  
American College of Cardiology

**What is TYPE 2 DIABETES?**

- ▶ A condition that occurs when your body **CAN'T PROPERLY PROCESS SUGAR INTO ENERGY.**
  - ▶ The body fails to use insulin correctly, or
  - ▶ The pancreas fails to make enough insulin

More than 30 million adults in the U.S. have diabetes

About 1 in 4 adults with diabetes don't know they have it.

**What are the SYMPTOMS?**

- Extreme thirst
- Feeling hungry even while eating
- Frequent urination
- Slow-healing cuts
- Blurred vision
- Numbness in hands or feet

**What Parts of Your Body Can BE AFFECTED BY DIABETES?**

- Nervous System
- Eyes, Teeth & Gums
- Coronary Arteries
- Kidneys
- Blood Vessels
- Feet & Skin

**Why is it DANGEROUS?**

High blood sugar can:

- Increase risk of heart disease or heart failure
- Threaten vision, limbs & extremities
- Lead to stroke

**KEEP UP WITH HEALTH VISITS** to find & treat problems early.

With help, **YOU CAN CONTROL DIABETES.**

Information provided for educational purposes only. Please consult your health care provider about your specific health needs.

▶ Go to [CardioSmart.org/Diabetes](https://www.cardiosmart.org/Diabetes) to learn more about making healthier choices.

@CardioSmart

If you would like to download or order additional posters on various topics, visit [CardioSmart.org/Posters](https://www.cardiosmart.org/Posters)

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In addition to this and other infographics that show patients what heart disease looks like and how lifestyle management and medications can lower their risk of cardiac disease, CardioSmart offers a variety of decision-aid tools that physicians can use to engage with patients during office visits.

“Shared decision-making is crucial, and the ACC encourages patients to advocate for themselves in all treatment decisions,” Dr. Bond says. “The step-by-step decision aids available through CardioSmart are easy to understand and empower both patients and providers to work together to design a course of action that will work best to improve health outcomes on an individual basis.”

CardioSmart also offers a free downloadable [Action Plan](#) to help patients manage their diabetes and protect their heart. Patients can use the workbook to write down their goals and map out a plan to lower their risk of diabetes-related heart problems. Also available: a [10-step checklist](#) of actions patients can take to lower their chance of diabetes-related heart problems. Additional information, tools, and resources to help people with diabetes are available through CardioSmart’s [Diabetes and Your Heart](#) web portal.

## **Health Disparities in Focus**

According to Dr. Bond, modifiable cardio-metabolic risk factors like diabetes disproportionately affect specific patient populations, including Black, Hispanic, Indigenous, and lower-income communities. CardioSmart has been helping to educate health care providers about these health disparities, as well as gender-based disparities, so they are better aware of and attuned to them. For example, women typically have a much higher likelihood than men of having cardiovascular disease if they have diabetes. Despite this evidence, women are less aggressively treated.

“Providers need to go beyond counseling these patients on diet, exercise, and medication compliance,” she says. “We also need to ask them about their environment and culture, which may play into why they have diabetes to begin with. This is a crucial step toward mitigating those disparities.”

## **Know What Your Numbers Mean**

Dr. Bond suggests that everyone, regardless of whether or not they have been diagnosed with diabetes or heart disease, take ownership of their health by seeing a doctor every year for a wellness check that includes measurements of blood pressure, heart rate, height, and weight, as well as a blood test and other screenings.

“It’s important to know all your numbers, but it’s even more important to understand what those numbers mean to put your risk factors into perspective,” she says. “Be honest about your family history, current environment, level of daily activity, and diet. All of these details will help your doctor suggest steps you can take to reduce your risks of diabetes and cardiovascular disease.”

## Life with Diabetes: Reducing Barriers to Care

Over 36 million people in the United States have type 2 diabetes, according to the [American Diabetes Association](#) (ADA), whose mission is to prevent and cure diabetes and to improve the lives of all people affected by the disease. No matter where people are in their health journey, the ADA has the resources and tools needed to live and thrive with diabetes.

*Real World Health Care* recently interviewed several leaders of the ADA about the obstacles faced by people living with diabetes and how the ADA is helping to address those obstacles. Read on for insights from the ADA's:

- Rene Gonzalez, Director, Health Equity and Community Impact
- Robert Gabbay, MD, PhD, Chief Scientific and Medical Officer
- Lisa Murdock, Chief Advocacy Officer

### Access to Care

**Real World Health Care:** What are some of the biggest obstacles people with diabetes face in terms of accessing the care they need to manage their diabetes?

**Rene Gonzalez:** There are several obstacles and programmatic barriers for people with diabetes in terms of managing their diabetes, especially around diabetes self-management education and support (DSMES). According to the CDC, those barriers include “lack of linguistically or culturally tailored services, curricula, or staff; lack of insurance or insurance with high costs or copayments; lack of family support; competing demands for time and attention; and lack of transportation or childcare.”

From my cultural and linguistic point of view and experience working in the health equity space, I know clinicians would benefit from health equity programming and culturally responsive care. Many times, clinical professionals lack the infrastructure or resources needed for translation and interpretation services. As a result, the undue burden falls on family members to translate or interpret complex and vital medical information in health care settings. Also, for families living in rural communities, access to proper health care is more difficult because leaving work for a doctor's appointment may take most of the workday just for the commute to their physician's office. In addition, there are seasonal and harvest requirements throughout the year for rural communities that require time to work on the ranch. For example, in rural eastern Colorado, students are given permission to leave school to focus on the harvest.

**RWHC:** How are those problems exacerbated by health disparities and socio-economic disparities like food and transportation insecurity?

**Rene:** Food deserts and easy access to low cost, processed foods such as those found in convenience stores, along with transportation insecurity, are contributing factors when attempting to manage or prevent diabetes resulting from racial and ethnic health disparities. The [CDC notes](#) that some racial and ethnic minority groups and groups with



*Rene Gonzalez*

lower socioeconomic status have historically had higher rates of illness and death from diabetes than White people, and this gap has not substantially narrowed.

Whether it's the result of too many empty calories or not enough nutritious ones, research shows that food insecurity in all its forms is a major risk factor for type 2 diabetes. For most Americans experiencing food insecurity, the problem isn't that they're getting too few calories, it's that they're getting too many of the wrong kind. Usually, the cheapest and most readily available foods (fatty, fried takeout, high-sodium prepared meals, candy, and soft drinks) provide plenty of calories, but they contribute to or make it hard to properly manage chronic conditions such as high blood pressure, kidney disease, and diabetes.

Transportation insecurity for families living in rural and frontier communities is another health disparity facing many families. People in small towns and rural areas, for example, can face long drives to supermarkets with limited stock. In addition, families living in rural communities often have no access to public transportation which makes trips to the supermarket few and far between. To summarize, socio-economic disparities like food and transportation insecurity are intertwined and exacerbated when attempting to manage or prevent diabetes.

**RWHC:** Are there certain myths about diabetes that add to obstacles patients face?

**Robert Gabbay:** There is often an unfair negative stigma that places the blame for developing diabetes on poor personal health choices. The fact is, there are many risk factors for type 2 diabetes – some that can be influenced by the individual, but also many that are not. Here are a few of the most common myths we see:

- Diabetes is contagious. There is no way to “catch” diabetes.
- Diabetes is easy. It is in fact like having a master’s degree in nutrition, biology, exercise, etc. It requires a lot of attention to detail.
- Diabetes means you can’t do some things. This is not true. People with diabetes have the same capabilities as anyone else.
- Diabetes happens because you eat too much sugar or too many carbohydrates. This is not true either. There are lots of complicated reasons diabetes happens.
- Diabetes is hereditary. It is sometimes, but not always.
- Insulin causes complications, or insulin causes weight gain. It might seem that way as often people start on insulin at the same time as complications surface, but insulin itself does not cause complications and weight gain. Also, when starting insulin, the body begins absorbing glucose again and there might be some minimal weight gain because of that.
- Prediabetes always leads to diabetes. Prediabetes does not always lead to diabetes. Without treatment, prediabetes could lead to type 2 diabetes.
- People with diabetes need to eat a diabetic diet. There is no such thing as a diabetic diet. People with diabetes need healthy meal patterns, the same as are needed for a healthy heart, cancer prevention, or overall healthy living.
- Taking a lot of diabetes medication means that you are not managing diabetes well. A lot of diabetes medication might be needed to manage diabetes well. Each



*Robert Gabbay*

medication helps to lower blood glucose differently and is needed for a different reason to meet glycemic goals.

- Borderline diabetes is not a diagnosis with diabetes. There is no such thing as “borderline diabetes.” Prediabetes is a medical condition that is now diagnosed when fasting blood glucose is at 100 to 125 mg/dL.

## Support For People Living with Diabetes

**RWHC:** How is the American Diabetes Association helping to address these obstacles and help patients overcome them?

**Rene:** When it comes to diabetes management, awareness, and prevention, the ADA has a plethora of resources to address obstacles and help support our families and communities. One of ADA’s guiding principles is the Health Equity Bill of Rights which ensures the 122 million Americans living with diabetes and prediabetes, along with the millions more who are at high risk for diabetes – no matter their race, income, zip code, age, education, or gender – get equal access to the most basic of human rights: their health. ADA encourages individuals to visit [www.diabetes.org](http://www.diabetes.org) for real-time access to diabetes-related information, resources, community engagement outreach, and opportunities for involvement. For example, individuals can visit our site to find important information such as the recently released 2024 Standards of Care guidelines.



*Lisa Murdock*

Standards of Care is a set of comprehensive and evidence-based guidelines for managing type 1, type 2, gestational diabetes, and prediabetes based on the latest scientific research and clinical trials. It includes strategies for diagnosing and treating diabetes in both youth and adults, methods to prevent or delay type 2 diabetes and its associated comorbidities like cardiovascular disease (CVD) and obesity, and therapeutic approaches aimed at minimizing complications and enhancing health outcomes.

We also offer tools and resources for caregivers, including our Diabetes Day by Day podcast, which is a great resource for both patients and their caregivers.

**RHWC:** Diabetes is one of the most expensive chronic diseases in the U.S. How is the American Diabetes Association working to reduce the significant cost burdens patients face in managing diabetes?

**Lisa Murdock:** The ADA is working to improve access to health insurance and to reduce barriers to care, both in terms of access and affordability, for all Americans with the disease. This includes ensuring all medications people with diabetes need are affordable. The ADA is also working to increase access to technology and services that can improve lives and diabetes outcomes. For instance, the ADA has driven efforts to bring increased access to continuous glucose monitoring (CGM) technology to seniors on Medicare, veterans, and those in state Medicaid programs who have traditionally had less access to the devices. These life-changing devices can improve health outcomes for those with diabetes. ADA is engaged in several other policy efforts to improve access including addressing policies that create barriers like step therapy protocols. Additionally, we are leading efforts to change the trajectory on the rising rates of diabetes-related amputation through policy efforts at both the federal and state levels.



**RWHC:** How will the recently implemented \$35 cap on monthly insulin costs covered under Medicare Part D help to bring costs down?

**Lisa:** Through advocacy, we are working in partnership with other organizations and elected officials to enact policies capping out-of-pocket costs for those on Medicare and in many state-regulated health plans. These entities provide health care benefits for millions of Americans with diabetes. As a result of political, societal, and marketplace pressures, manufacturers also took action to make their insulin products more affordable in the U.S. While these actions don't resolve insulin affordability for everyone, they are bringing economic relief to millions. The American Diabetes Association is committed to continuing to work on policy change to bring permanent insulin affordability to all Americans who rely on it to live.

## Know Diabetes by Heart Program Empowers Patients & Caregivers

In a recent edition, *Real World Health Care* profiled *CardioSmart*, a program from the American College of Cardiology designed to help patients and health care providers share in decision-making around diabetes and cardiovascular disease management.

In this edition, we shine our spotlight on *Know Diabetes by Heart™*, a joint program of the *American Heart Association* (AHA) and the *American Diabetes Association* (ADA). This groundbreaking initiative was launched to help reduce cardiovascular deaths, heart attacks, heart failure, and strokes in people living with type 2 diabetes.

“The frequent coexistence of diabetes and heart disease prompted both groups, along with other invested partners, to join together and raise awareness of the connection between the two conditions,” explains Teri Hernandez, PhD, RN, Associate Dean for Research in the College of Nursing at the University of Colorado, and AHA spokesperson. “It has been an incredibly powerful partnership between the two organizations in terms of giving people the resources, knowledge and empowerment they need to manage and address their risk factors.”

### Diabetes and Cardiovascular Disease: Does One Lead to Another?

According to Dr. Hernandez, the connection between cardiovascular disease and diabetes is usually framed around having diabetes and then developing cardiovascular disease. However, that is not always the case. Both diseases share common risk factors, such as obesity and high blood pressure, cholesterol, lipid, and blood glucose levels.

“Patients with cardiovascular disease may not start out with diabetes, but over time, risk factors associated with cardiovascular disease, such as high body weight and lipid levels, can cause stress in the pancreas, thus limiting the amount of insulin created,” she says. “As a result, you get the ‘perfect storm’ for both issues to co-exist. I saw this early in my career as a cardiac nurse when many of my cardiac patients also required insulin injections for diabetes.”

### Tailored Support for Patients and Caregivers

One of the unique aspects of the Know Diabetes by Heart program is the way in which it serves three unique groups: those new to type 2 diabetes, those managing their type 2 diabetes, and those caring for someone with type 2 diabetes.

For those new to diabetes, Know Diabetes by Heart offers resources to help patients begin their heart care journey, understand their risk factors, and play an active role in their health care. Those managing their type 2 diabetes can access resources to help them maintain their commitment to reducing risk factors and prioritize their mental health. The program encourages family caregivers to help their loved ones with type 2 diabetes learn about their risk of heart disease and stroke and take better care of their heart.



*Teri Hernandez*

“Caregivers are a particularly important and vulnerable group,” Dr. Hernandez says. “They often sacrifice their own self-care to care for their loved one. They may live with a chronic condition themselves or develop one over time – often the same condition facing their loved one. The same lifestyle risk factors for diabetes and heart disease are now becoming common in the caregiver population.”

## **Diabetes and Heart Health Learning Resources**

One of the most popular elements of Know Diabetes by Heart is its [e-learning modules](#) that address risk factors, how to prevent heart disease and stroke, and how to be an active member of one’s health care team. The e-modules are available in both English and [Spanish](#), and have been viewed more than 21,000 times.

An online and phone-based [Ask-the-Expert Q&A series](#) tackles some of the biggest issues commonly faced by people living with diabetes. It features different expert speakers – cardiologists, nutritionists, social workers, exercise physiologists, and certified diabetes educators – every month and gives participants an opportunity to ask questions in a safe and understanding space. The sessions are free and open to people living with diabetes, their caregivers, and community members.

Know Diabetes by Heart also shares:

- [Inspiring stories](#) from others who are managing their type 2 diabetes and modifying their risk for heart disease and stroke.
- A [video library](#) designed to help those living with diabetes feel more confident about taking an active role in their health.
- [Recipes](#) designed to help those living with diabetes eat nutritious food to help reduce their risk of developing heart disease and stroke.

Know Diabetes by Heart participant Jacqueline Alikhaani praises the program, saying, “When I joined Know Diabetes by Heart, I learned that heart disease and diabetes are related. I have also learned that if you are diagnosed, you can treat it. And if you can treat it, you can beat it. My journey has been a continuous commitment toward long-term lifestyle changes in the way I eat and exercise. Some of my favorite Know Diabetes by Heart program resources and services are the newsletter, Ask the Expert support series, and programming targeting [kidney health](#). KDBH is diverse and has something for everyone to learn from. I especially love that via KDBH, I know that I am not alone. Taking advantage of KDBH’s practical educational resources and services helps guide me on my road to achieving and maintaining heart health.”

## Promoting Equity in Diabetes Education, Research and Management

Type 2 diabetes is a serious, chronic health condition that can lead to other serious health issues such as heart disease, stroke, blindness, and kidney failure. About 38 million Americans have diabetes, and about 90-95 percent of them have type 2 diabetes.

According to the CDC, in the last 20 years, the number of adults diagnosed with diabetes has more than doubled as the American population has aged and become more overweight or obese. Moreover, about 98 million US adults have prediabetes, and more than 8 in 10 of them don't know they have it.

Black Americans are one of the largest ethnic groups to be impacted by diabetes, according to Leon Rock, CEO, [African American Diabetes Association \(AADA\)](#).

"One in three Black adults has diabetes," he said. "We are 60 percent more likely to be diagnosed, twice as likely to die of diabetes, and three times as likely to end up hospitalized for diabetes-related complications than the country as a whole. We are more than twice as likely to undergo diabetes-related leg or foot amputation and three times as likely to have end-stage kidney disease."



*Leon Rock*

### Ringling the Alarm on Diabetes in African American Communities

The AADA is a new and emerging organization that was established to ring the alarm on the diabetes epidemic and health disparities in African American communities. It was formed to provide much-needed outreach, education, research, and advocacy for the millions of Blacks impacted by health disparities related to diabetes. It is the only national diabetes organization established by Black people and advocating for Black diabetes health equity.

"I co-founded the AADA after I learned that I have diabetes and went searching for answers," said Rock. "I was disappointed to find limited resources geared to black men. Even the web sites of major diabetes organizations and health providers were devoid of black faces and experiences."

Rock said one of the critical purposes of the AADA is education around the higher diabetes disease burden and the disparities in care Blacks receive. The AADA also wants to provide education around culturally tailored health care interventions and products that seek to improve diabetes care, improve health outcomes, and reduce health disparities among racial and ethnic populations.

### Engaging Blacks in Clinical Trials

According to Rock, many Blacks do not have access to a regular family physician and even fewer have access to an endocrinologist specializing in diabetes care. That means they are less likely than most to know about and have access to clinical trials.

Diversity and inclusion are important in clinical trials, according to the National Institutes of Health, “because people may experience the same disease differently. It is therefore essential that clinical trials include people with a variety of lived experiences and living conditions, as well as characteristics like race and ethnicity, age, sex, and sexual orientation, so that all communities benefit from scientific advances.”

“Researchers and research sponsors face a real hurdle in getting Blacks involved in clinical trials due primarily to our generational knowledge of the Tuskegee experiment,” Rock said, referring to the decades-long government research program in which impoverished African American sharecroppers were deceived by researchers about their diagnosis of syphilis and subsequent treatment with ineffective medications. “Even the younger generation – my 12-year-old granddaughter knows about the history – is mistrustful and leery of getting involved with medical research as a result.”

Rock said it is imperative for clinical trial coordinators to reach out to potential trial participants by meeting them in their communities, including places researcher normally don’t go, like public housing, senior communities, low-income community health centers, libraries, Black churches, barber shops, hair salons, and historically black colleges and universities.

“We encourage AADA members and allies to act as ambassadors and advocates for participating in trials by addressing the issue from the vantage point of the Black experience,” Rock said. “It’s also important for us to get the word out that clinical trials have changed since Tuskegee in terms of ethical mandates and institutional review boards. Nobody is talking about that.”

## **Growing the African American Diabetes Community**

As a relatively new organization, the AADA is working to expand its outreach and advocacy efforts in communities nationwide. It offers memberships to community-based organizations (CBOs) and encourages CBOs to create local, faith-based, and college/university chapters. It also offers several individual membership levels that allow people to be part of a community dedicated to helping those living with and affected by diabetes. The Association’s plan, Rock said, is to create chapters in every state in the country.

Rock encouraged Black people living with diabetes to join the AADA as the association spreads the word about how diabetes impacts the Black community and added a special call for those with diabetes to advocate for themselves and their health: “Take control of your weight, diet, and overall health. See a doctor at least four times a year to check your blood sugar levels and your A1C. Be honest with your doctor about what you’re eating, the medications you’re taking, and any neuropathy in your limbs. The risk of amputation is real, so ask your doctor to check your feet! If they don’t, find a new doctor.”