Twenty-four million Americans have diabetes mellitus, and 90% to 95% of them have type 2 diabetes mellitus. Every 24 hours, diabetes mellitus is diagnosed in 3600 people, and African-Americans are 1.6 times more likely than white Americans to receive that diagnosis. Currently, 8% of all Americans have diabetes, and among them, 14.7% of all African-Americans aged 20 years and older have either diagnosed or undiagnosed diabetes.
Interestingly, 1 of every 10 health care dollars in the United States is spent on diabetes and its complications: kidney disease, heart disease, blindness, and foot problems (See: www.diabetes.org/living-with-diabetes/complications/foot-complications.html). Approximately $132 billion was spent on diabetes and its complications in 2002, and $174 billion was spent in 2007. Most of these costs can be attributed to the complications of this disease, which include more than 4000 new cases of diabetes-related end-stage renal disease each year. Foot problems are another complication, which African-Americans are 2.7 times more likely than non Hispanic whites to experience. The number of lower-limb amputations is 1.3 to 2.7 times higher in African-American men with diabetes than in African-American women with diabetes.

According to the Office of Minority Health report, in 2006 African-American women were 2.3 times more likely than non-Hispanic whites to die of diabetes. Why is there such disparity between African-Americans and non-Hispanic whites? Is there a genetic predisposition to diabetes? Data from the Diabetes Prevention Program study showed that there was no ethnic disparity evident in the risk of developing diabetes, yet disparities exist. The common denominator that may contribute to this disparity is obesity. According to the Office of Minority Health, 4 of 5 African-American women are obese, and the report of the National Health and Nutrition Examination Survey noted that from 2003 to 2006, African-American women were 70% more likely than non-Hispanic white women to be obese. Obesity is the most important environmental risk factor contributing to insulin resistance. Visceral obesity, characterized by omental or mesenteric fat, is strongly associated with insulin resistance. Visceral fat increases glucose production in the liver and results in hyperinsulinemia, which is a risk factor for cardiovascular disease and is toxic to beta cells. Hyperglycemia causes damage to capillary endothelial cells of the retina, mesangial cells of glomeruli in the kidneys, and neurons and Schwann cells of peripheral nerves.

Obesity is a risk factor for cardiovascular disease and diabetes. Diabetes damages the lining of arterial walls, rendering the arteries more prone to plaque buildup and reduced elasticity; the latter is known as endothelial cell dysfunction. Diabetes also involves increases in triglyceride levels and in the number of small, dense low-density lipoprotein particles. Hyperinsulinemia further causes an increase in sodium reabsorption, which stimulates the sympathetic nervous system and leads to hypertension.

Cardiovascular disease is the leading cause of death in patients with diabetes; heart disease and stroke account for more than 65% of deaths in these individuals. The risk of death from heart disease is 2 to 4 times greater, and the risk of death from stroke is 2.8 times greater in individuals with diabetes compared with the general population.

On the basis of my personal and clinical experiences, as an African-American osteopathic physician, there are 4 main barriers to effective treatment of African-Americans with diabetes mellitus. These barriers are related to access to healthful foods, costs of treatment, cultural distrust of physicians, and medication and dietary non-compliance.

1. Access to healthful foods
   In New Orleans, Louisiana, in the aftermath of Hurricane Katrina soda was cheaper than water, so soda was what individuals drank, including the diabetics. Also, Arby’s was offering 5 sandwiches for $5 while the temperature inside the Federal Emergency Management Agency trailers was so high that residents were not inclined to cook healthier alternatives. Although Hurricane Katrina resulted in an emergency situation, that period highlights all-too-common experiences for African-Americans in everyday life. For many African-Americans and others in urban and rural areas, high-calorie “junk” foods are cheaper and more easily obtained than healthful plant-based foods.

   In April 2010, a television special on “Dateline NBC” about Detroit, Michigan, also highlighted this problem. The city residents had no access to any supermarket for miles where residents could buy fresh fruits and vegetables. In such situations, instructing African-American patients to eat more fresh fruits and vegetables is pointless if they are unable to access such foods.

2. Costs of treatment
   Several years ago one of the Big Three automobile manufacturers informed an
employee that the company does not pay for diabetes education for their employees; the company said they do pay for the cost of diabetes education, about $20,000, but only if a diabetic complication had occurred. Many people cannot personally afford to pay out of pocket diabetes education as a preventive strategy. Thus unreimbursed use of the office visit and physician time is the only alternative available to teach patients how to use their glucometers, to plan meals, to check their feet, and how to handle diabetic emergencies. Giving out samples of diabetic medication is one way to help lower the overall short term out of pocket costs to the patients.

The cost of supplies for diabetes treatment is an important issue because some insurance companies do not pay for diabetic supplies. Ohio is one of few states that do not mandate coverage for diabetes education and supplies. Thanks to free supplies provided by pharmaceutical company representatives, this allows you to give the patient a glucometer; glucose test strips, however, can be very expensive. As a result of not being able to afford the necessary supplies, African-American patients with diabetes mellitus may be noncompliant in monitoring their blood glucose levels. If more than one individual in the same household has diabetes, the patients may share the same glucometer. This situation makes it nearly impossible to monitor a patient’s glucose levels properly.

3. Cultural distrust of physicians

It is often the case that many African-Americans are unable to speak to their physicians openly and honestly. They apply what we refer to as a “protective silence.” When the physician’s questions about the patient’s personal life come in rapid succession during the history taking or appear to be intrusive, African-American patients tend to think that the physician is trying to “get into their business” or is seeking personal information that is not needed to provide medical care. It is important for physicians when gathering information to pay attention to the verbal and nonverbal behavior of patients and to explain to them why questions are pertinent to their care. Physicians also must be certain that their behavior and responses are nonjudgmental and culturally appropriate.

Suspicion and distrust in a patient can translate into hostility and sometimes lead to a failure to understand or comply with the treatment plan. A patient’s hesitation to seek early medical treatment can then result in a late diagnosis and initiation of treatment, in which case the condition may be harder to treat and may be more life-threatening.

Partly in response to historical inequities of care and out right instances of mistreatment combined with the traditional role of the church, African-Americans have a long history of turning to God for healing. The prevailing African-American culture emphasizes family bonding, sharing, and the importance of spirituality. Traditionally, health and spirituality have been entwined.

Even in 2010, patients recall the Tuskegee Syphilis Study. For those who have never watched the 1997 HBO television film Miss Evers’ Boys, the focus is a study conducted at Tuskegee Institute by the US Public Health Service from 1932 to 1972. The study was purportedly designed to evaluate the natural course of syphilis, left untreated, in 399 African-American male sharecroppers from Macon County, Alabama. Study participants were recruited with the promise of “free treatment.” However, they actually received lumbar punctures (ie, spinal taps) to study the neurologic effects of syphilis, as well as doses of heavy metals. Government officials went to great lengths to ensure that study participants did not receive effective treatment. Even after penicillin became widely available, it was still withheld from the participants. More than 100 African-American men in the study may have died of advanced syphilis.11

The men in the Tuskegee Syphilis Study11 received free meals, free “care,” and free burials. This deceit, denial of care, and disregard for the health and the life of African-Americans, continues to be an important factor in the low participation rate of African-Americans in clinical trials, as well as in routine preventive care. Many African-Americans believe that if they were lied to by health officials and physicians in the past, they could very well be lied to again.11
4. Medication and dietary noncompliance

The fourth barrier in treating patients with diabetes is medication and dietary noncompliance. In one instance, I informed some African-American ministers who were noncompliant, especially with their diets, that “just because they were God’s ministers, He will not grant them a special dispensation. Although God may forgive them, Mother Nature will not.” It is important to continually emphasize to patients, as the above example demonstrates, that they have to take their medicines or they are going to have complications from diabetes.

A phrase commonly heard from African-American patients in response to receiving a diagnosis of diabetes is, “I am not claiming it.” Some patients believe that acknowledging that they have this disease means that they have a lack of faith or that they are not trusting God. They may also believe that if they do not “claim it,” they will be miraculously healed and the disease will go away. These beliefs and behaviors need to be addressed.

Tell them, “You do not have to claim their medicines or they are going to lose weight has lost only 1 pound, tell him or her how proud you are of their effort, because it takes 3500 calories to lose 1 pound. If you ask a patient to bring in test results, look at the results and congratulate the patient on the effort, not the numbers. One way to help your patients is to have them think of medicine and health care providers as instruments that God uses. This mindset will enable them to achieve the best level of health.

African-Americans place a great deal of trust in their communities. As a result of this strong link, I have committed my career to community education. I speak at local health fairs, churches, and family reunions, when asked. My goal is to educate the community at every opportunity. I know that I cannot be all things to all people, nor can I be everybody’s physician. However, I can provide information that educates the community and provides patients with information to help make their office visits meaningful.

Clear communication and interpersonal comfort are crucial during the office visit and cultural competency is a must. For instance, addressing African-Americans informally—without a courtesy title—is considered disrespectful. My cousin took my 96-year-old aunt, who has dementia, to see her physician. The nurse came to the lobby and called her by her given name, Mary; my aunt did not move. My cousin told the nurse, “She responds to Mrs. Powe,” and that everyone who could call her Mary is dead. The nurse called for “Mrs. Powe,” and my aunt got up from her seat.

Carefully listen to your patients without passing judgment. Do not mimic pronunciation. Do not use slang or stereotype people. Do not give preferential treatment, and avoid “color blindness.” Avoid statements such as, “I don’t see color,” which some people consider to be a term of endearment. These are not examples of culturally competent behavior.

Using the mnemonic ETHNIC, as proposed by Kobylarz et al, when treating African-American patients can be very helpful:

E: Explanation
Explain the disease and the importance of treatment to your patients. Most pharmaceutical companies that sell diabetic medications have educators who will visit your office to educate patients about diabetes at no cost to your patients or to you. They will discuss obesity and its relationship to diabetes. Learn what diabetes education programs are available in your community and the level of cultural competence of these programs.

T: Treatment
Tell your patients which medicines you are prescribing for them and explain why they are necessary for successful treatment. Let patients know that certain specialists, such as an ophthalmologist, a podiatrist, and perhaps a cardiologist and a nephrologist, will need to be involved in their treatment to prevent complications of cardiovascular disease, blindness, kidney disease, and limb amputations. Assure patients that a team of professionals is available to help them.

H: Healers
Ask your patients about others who are involved in their care; it could be their children, other family members, or even friends. When the patients need moral support, introduce them to other people with diabetes in your practice.

N: Negotiation
Physicians often get requests from their patients to speak before various groups. Use this and other requests to negotiate behavioral modification. If patients are complying with their treatment, it is a good idea to speak...
to their groups, no matter how small or large. For example, one of my patients, a beautician who had diabetes and was noncompliant, often asked to do my hair. I told her when she became more compliant, I would let her do my hair. As a result, I eventually asked her for highlights and ended up blonde. I did not have much more fun, but my patient became more compliant.

I: Intervention
Sometimes, no matter who is involved and no matter what the physician does, some patients cannot be reached; treatment is not being followed, and additional intervention is needed. You may have to refer the patient to an endocrinologist or send the patient back to the diabetes educator. Take time to find out whom your patients trust and whom they are willing to let be involved in their care.

C: Collaboration
Get local African-American churches and community groups involved. Barbershops and beauty shops are another source of support. One local physician regularly gives small talks about prostate cancer to African-Americans at the barbershop.

Final notes
An important fact to keep in mind is that type 2 diabetes mellitus can be prevented. The Diabetes Prevention Program Research Group showed that weight loss of 5% to 7%, physical activity of 30 minutes per day for 5 days per week, and healthier food choices (including limiting the amount of fat in the diet) led to a 58% decrease in new cases of diabetes.13

Finally, physicians and patients need to be proactive. A decrease of 1% in the glycosylated hemoglobin level can lead to a 43% decrease in the amputation rate, a 37% decrease in the microvascular disease rate, a 14.5% decrease in mortality from all causes.14

With these statistics in mind, I tell my patients, “ABC, it’s easy as 1,2,3:”
A. Keep your glycosylated hemoglobin (HbA1c) level below 6.5%.
B. Keep your blood pressure below 130/80 mm Hg.
C. Get your low-density lipoprotein cholesterol level below 70 mg/dL.

References
15. Dr. Grace helped to establish Grace Place Medical Service, a clinic in Youngstown for underserved, uninsured, and underinsured individuals, in association with the Greater Youngstown Coalition of Christians. She is a speaker on minority health issues.

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